

Research

State of Washington; Appropriations; General Obligation

Primary Credit Analyst:

Jillian Legnos, Hartford (1) 617-530-8243; jillian.legnos@spglobal.com

Secondary Contact:

Oscar Padilla, Dallas (1) 214-871-1405; oscar.padilla@spglobal.com

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Credit Profile		
US\$463.91 mil various purp GO bnds ser 2019C due 06/30/2044		
<i>Long Term Rating</i>	AA+/Stable	New
US\$174.685 mil motor veh fuel tax GO bnds ser 2019D due 06/30/2044		
<i>Long Term Rating</i>	AA+/Stable	New
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed

Rationale

S&P Global Ratings assigned its 'AA+' long-term rating to the State of Washington's series 2019C various purpose general obligation (GO) bonds, and series 2019D motor vehicle fuel tax GO bonds.

At the same time, S&P Global Ratings affirmed its 'AA+' long-term and underlying ratings on Washington's various purpose and motor vehicle fuel tax GO debt outstanding, and its 'AA' rating on the state's appropriation-backed debt outstanding based on the application of its "Issue Credit Ratings Linked To U.S. Public Finance Obligors' Creditworthiness" criteria (published Jan. 22, 2018).

We rate these appropriation-backed debt obligations one notch lower than our rating on the state based on our view of Washington's general creditworthiness and to reflect the service contract and lease payments appropriated by the state legislature for the bonds. We view these bonds as having a strong relationship to the obligor since they provide funding for projects we believe are significantly important to Washington. In our opinion, there is no unusual political, timing, or administrative risk related to the debt payment. The outlook on all ratings is stable.

The ratings reflect our view of Washington's:

- Relatively well-educated workforce and good income indicators;
- Good recent economic growth relative to that of the nation and a sales tax-based revenue structure that has demonstrated less sensitivity to economic cycles than income tax-reliant states;
- High cost of housing, especially in key economic centers that could impede long-term growth prospects;
- Good internal access to sources of liquidity in the treasury and treasurer trust funds;
- Strong financial policies and practices, including statutory provisions requiring that the state's biennial budget and projected subsequent two fiscal years' spending plans be balanced, which is key given increasing expenditure pressures; and
- Moderately high debt burden across several measures, but relatively low unfunded pension and other postemployment benefit (OPEB) liability.

Our rating on the state's GO bonds reflects its full faith, credit, and taxing powers. The motor vehicle fuel tax GO bonds are also secured by motor vehicle fuel taxes. Lease payments or payments made under a service contract, and subject to legislative appropriation, support the payment on appropriation-backed debt.

Washington's 2019-2021 biennium marks the state's first budget cycle following the conclusion of six years of litigation surrounding the state's education funding. In June 2018, the Washington Supreme Court found Washington compliant with the McCleary ruling of 2012, which opined that the state had systematically underfunded its public education system. The ruling led to significantly increased education spending in Washington over several budget cycles; officials report that state funding for kindergarten to grade 12 (K-12) public schools has increased 67% since the 2011-2013 biennium. In addition, the ruling greatly altered how the state funds education by emphasizing class size reductions, transportation, and operating costs. We believe the conclusion of the lawsuit is a positive development for the state in that it eliminates significant uncertainty and allows for a plan in the future. For more information on the conclusion of McCleary, please see our analysis for the State of Washington, published Aug. 16, 2018, on RatingDirect.

Governor Jay Inslee's budget proposal for the 2019-2021 biennium maintains McCleary funding and allocates approximately 51% of expenditures for K-12 schools. Overall, the governor's budget totals \$54.9 billion for the state general fund, education legacy trust account, and opportunity pathways account. The proposal calls for significant increases to both revenues and expenditures, in our view, with each approximately 18.8% above levels enacted for the state's 2017-2019 biennium budget. The governor's priorities for spending other than education include initiatives for behavioral health, climate change, and orca recovery efforts. On the revenue side, the governor's budget incorporates the Economic Revenue and Forecast Council's (ERFC) November 2018 forecast, which projects revenue growth of 9.2% over the previous biennium.

S&P Global Ratings expects the pace of economic growth for the states sector to decelerate in 2019. For more information, please see "U.S. State Sector 2019 Outlook: Caution - Slower Speeds Ahead," published Jan. 8, 2019. In addition, the budget proposes three new sources of revenue: increases to business and occupation taxes on services (\$2.6 billion), a new tax on certain capital gains (\$975 million), and changes to the state's real estate excise taxes to a graduated rate from a flat rate (\$400 million projected for the 2021-2023 biennium). While the proposals fund expenditure growth in part by decreasing ending balance reserves (by \$888 million or 61%), the budget stabilization account (BSA) would increase by \$611 million (38%) to \$2.2 billion following transfers from the general fund.

Washington does not levy a personal income tax and is one of nine states that does not currently impose a capital gains tax. Together, retail sales, and business and occupation taxes, account for a combined 72% of general fund tax revenues and typically afford more revenue stability than other states, many of which rely on personal income tax revenues. We believe Washington's economy has gradually become more service oriented over time; however, the goods and services subject to the state's retail sales and use taxes have not evolved alongside this shift. In addition, we have observed that capital gains-related tax revenues are among the most cyclical and difficult to forecast revenues in numerous other states. In our view, how a state manages through this volatility is an important credit factor. Officials report the administration's revenue estimate for capital gains collections was calculated using a 10-year average of capital gains from federal tax returns to incorporate volatility. Previous attempts to implement a capital gains tax were included in the governor's 2015-2017 biennium budget proposal and the house's 2018 supplemental budget.

Washington's economy is among the highest performing in the country: In 2017, real GDP growth outpaced every state in the nation at 4.4% and was 0.8% above the state with the second highest growth (which was Colorado at 3.6%). More than 58% of the state's exports are civilian aircraft, engines, and parts (valued at approximately \$46.5 billion), and the state has benefitted from a record number of orders of 737s from the Middle East, Asia, and Africa. Other large employers such as Microsoft and Amazon continue to support the state's low unemployment rate (4.3% as of December 2018) and high per capita incomes (112% of the national average). However, as we discussed in "For U.S. State And Local Governments, Winter Is Coming, But Maybe Not Yet" (Oct. 24, 2018), the region faces challenges in housing affordability and trade. Washington's economy could be particularly vulnerable to escalating trade tensions. The state remains an important gateway for trade with Asia and Canada, and ranks third in the nation in annual export value and first in export value per capita. The state has begun to report on the impact on its exports in relation to federal trade tariffs. The state's ERFC, in its November 2018 revenue forecast, reported slowed growth in exports to China, Canada, and the EU through third-quarter 2018. However, during this same time period, exports to Mexico rose slightly.

The state's strong economy has translated into better-than-forecasted revenue growth. For the two months from Nov. 11, through Jan. 10, 2018, revenues were tracking \$126 million above the November forecast. Based on the November 2018 Economic Revenue and Forecast Council (ERFC) forecast, overall general fund revenue projections for the 2017-2019 biennium now total \$43.9 billion. The forecast adjusted economic-driven revenue upward by \$119 million and forecasts state general fund revenue for the 2017-2019 biennium to be a significant 17.3% above actual 2015-2017 biennium revenue, reflecting economic growth as well as increased tax levy. The November 2018 revised general revenue forecast for the 2019-2021 biennium totals \$49.1 billion, reflecting a moderated but still-strong 9.2% cumulative growth compared with current biennium revenue estimates. We expect the next revenue forecast to be submitted to the governor and legislature on or before March 20, 2019.

While the state's reliance on retail sales tax, and business and occupation taxes typically affords Washington more revenue stability than other states that rely on personal income tax revenues, economic cyclicalities could pressure 2019-2021 general fund revenue. The ERFC's pessimistic economic scenario in the November 2018 forecast reflects 6.2% lower general fund revenue than currently estimated for the next biennium due to downside risks from international trade policy uncertainty, higher oil and gasoline prices, a maturing economic expansion, Federal Reserve rate activity, or geopolitical risks.

In November 2018, voters opposed a ballot measure that would have enacted a carbon emissions fee of \$15 per metric ton of carbon beginning Jan. 1, 2020. A similar measure failed at the polls in 2016. According to a fiscal impact study of the initiative, the fee could have raised up to \$722 million annually by fiscal 2023 for carbon-neutral investments and administrative costs. The initiative could have also meant higher expenditures for certain local governments and school districts that provide electricity and natural gas services or operate their own fueling distribution facilities. If the measure had passed, Washington would have been the first state in the nation to impose a fee on carbon pollution.

Three other ballot initiatives were passed last November, including a ban of local government taxes on groceries, gun ownership restrictions, and amendments to law enforcement training and standards. There is currently one initiative in process that could appear on the November 2019 ballot: an initiative that would limit motor vehicle taxes and fees.

In general, we consider Washington's approach to financial management strong, as reflected in our Financial Management Assessment (FMA) and budget management scores. Well-established economic and revenue forecasting, and increasingly refined debt management practices and oversight, served the state's credit quality well during the recession and its aftermath. Forward-looking state policies facilitate budget practices we view as prudent, including minimal reliance on payment deferrals or other one-time responses to anticipated budget gaps.

As of Jan. 1, 2019, Washington is expected to have about \$18.9 billion in GO bonds outstanding. Of this, about \$6.6 billion of the state's net GO debt is payable first from excise taxes on motor vehicles and special fuels. The state is also expected to have about \$860 million of certificates of participation (COPs) outstanding including COPs for state and local agencies. Tax-supported debt was moderately high, in our opinion, at about \$2,556 per capita and 4.4% of total personal income at the end of fiscal 2018. Debt paydown remained average, in our view, with about 56% of principal outstanding amortized over 10 years. We expect debt levels to remain moderately high given anticipated future issuance, particularly for Washington's transportation capital program.

Long-term liabilities include those related to the state's pension system and retiree health care. Based on June 30, 2018, comprehensive annual financial reports for the cost-sharing plans, we calculate Washington's share of the net pension liability across 12 pension plans (not including a share of the school employees retirement system liability) totaled about \$1.3 billion as of June 30, 2018, or about \$171 per capita and 0.3% of personal income, which is very low, in our view. The aggregate funded ratio across plans, including cost-sharing plans in which the state participates as of June 30, 2018, is what we consider good at almost 89%. We note the plan adopted a 7.5% rate of return assumption in fiscal 2017, down from 7.7%, which is more conservative and will likely reduce the reported funded ratio in the near term. We consider Washington's unfunded OPEB liability, representing about \$7860 per capita, below average. OPEBs are funded on a pay-as-you-go basis.

Based on the analytic factors we evaluate for states, we have assigned Washington a composite '1.7' on a four-point scale whereby '1.0' is the strongest and '4.0' is the weakest.

Outlook

The stable outlook reflects our view of Washington's continued economic and revenue growth and the resolution of the McCleary ruling. Nevertheless, we expect that significant upward pressure on spending originating in legal- and voter-approved mandates will remain a soft point in the state's credit profile. However, legal requirements that Washington enact budgets that not only balance for the current biennium but also project balance through the following biennium help facilitate a structural approach. That, coupled with Washington's ongoing discipline vis-a-vis funding the state's budget reserves, should help insulate the state rating from unexpected economic or revenue weakening. We believe Washington's ability to maintain a strong financial position throughout changes in the business cycle will be important to the state's credit profile over time. Potential for upward movement would likely entail moderation of growth in debt levels and sustainable growth in revenue that keeps pace with the state's underlying economic growth rates and mandated costs.

Downside pressure on the state rating would likely have economic origins. A sharp falloff in the housing market or

sustained weak demand for key state exports, fueled in part by a strong U.S. dollar, changes in trade policy, or slower-than-expected growth from China, could all contribute to such a scenario. State policymakers' response to a downside economic scenario--whether it's timely and structurally oriented--would likely dictate any effect on our rating on Washington. If lawmakers delayed taking corrective action or relied extensively on one-time solutions to budget gaps, allowing the state's reserve balances to decline precipitously, this could result in downward pressure on the rating.

Governmental Framework

Washington's statutory requirement to adopt a balanced budget, when coupled with the state's financial management policies, encourages the state to ensure ongoing fiscal solvency. Legal protections for Washington's GO debt include a specific constitutional requirement that the legislature make appropriations in the budget for the interest and principal installment payments on state debt. Although neither state statute nor the state constitution provides that debt service be a priority relative to other state payment obligations, no other payment obligation enjoys a specific requirement that an appropriation be made. In our view, this has the practical effect of providing debt service with a strong legal position among Washington's various payment obligations.

The governor has authority to make across-the-board reductions to spending allotments when a cash deficit in a particular fund is projected. However, the authority to impose disbursement reductions does not include allotments for basic education, pension benefits, or GO debt service. The state's office of financial management monitors and makes recommendations about cash management activities to the governor.

An active voter-initiative environment complicates Washington's governmental framework. We view the initiative as limiting the state's fiscal flexibility somewhat. However, the legislature's willingness and ability to set aside provisions of voter-approved initiatives when fiscal conditions warrant has proven beneficial to credit quality, in our view. (Initiatives may be amended with a two-thirds vote of the legislature within two years of passage and a simple majority of the legislature thereafter.) We noted, for instance, that during the 2011-2013 biennium and eight of the 14 preceding years to that biennium, the legislature temporarily suspended initiatives 732 and 728 (for teacher cost-of-living salary increases and smaller class sizes, respectively). During the 2012 legislative session, the legislature repealed I-728 altogether. The legislature also suspended I-732 again for the 2013-2015 biennium and suspended features of I-1351 (class size reduction) for the current biennium. The state constitution allows Washington to raise taxes with a majority vote of the legislature.

On a scale ranging from '1.0' (strongest) to '4.0', we have assigned a score of '1.7' to Washington's governmental framework.

Financial Management

We consider Washington's financial management practices strong under our FMA methodology. An FMA of strong indicates our view that practices are strong, well embedded, and likely sustainable. The state ERFC, which is made up of representatives appointed by the governor's office, both houses of the legislature, and both major political parties, as

well as the state treasurer, produces an analytical report on economic and revenue performance each month and, by statute, presents quarterly revenue forecasts covering the current and upcoming biennium. The state uses the council's forecasts, which are based on a modified IHS Connect model of the U.S. economy, to set revenue parameters at biennial budget adoption. Washington has a record of making budget adjustments within the biennium when the forecast council materially changes its projections. Beginning with the fiscal 2013-2015 biennium, state law required the legislature to balance not just the biennial budget, but also the spending and revenues anticipated for the subsequent two-year period. In addition, three times per year, the state convenes a Caseload Forecast Council, which forecasts service requirements in such areas as public assistance, state corrections, medical assistance, and K-12 education. The executive and legislative branches use these forecasts, along with historical expenditures, to formulate budget proposals and midbiennium revisions.

Further guiding budgeting decisions is a rolling, four-year general fund forecast maintained by the state's ERFC. Washington uses these forecasts to quantify the timing and scope of potential deficits in the subsequent biennium and, in some cases, to begin addressing structural imbalances before the next budget cycle begins. Although the state does not have a minimum reserve policy, Washington Constitution requires the state to set aside 1% of most unrestricted state revenues in each fiscal year into a budget stabilization fund, a form of a rainy-day fund. That fund can be tapped under a provision allowing the state to draw on the fund when employment growth falls below 1%, in the event of a catastrophic emergency, or by a 60% supermajority vote of the legislature. When the fund reaches 10% of estimated general state revenues in that fiscal year, the state can also draw excess funds for education capital projects. In addition, in November 2011, voters approved a measure requiring that any revenue growth that exceeds one-third of the average biennial growth in state revenues during the previous five biennia be transferred to the BSA. Although constitutional provisions help boost reserve levels in good years, in 2018 the state passed supplemental budget legislation that made a one-time allocation of a portion of unrestricted state revenue for fiscal 2019 education funding rather than to the BSA. While this has been deemed constitutional by a superior court judge, and we believe current BSA balances remain good, any potential recurring diversions in the future could diminish growth of these balances.

Washington's constitution currently limits maximum debt service costs on various purpose GO bonds to 8.25% of an historical average of general state revenue; this limit falls to 8.00% on July 1, 2034. The treasurer releases an annual debt affordability study, which describes issuance trends and effective constraints on debt issuance and uses demographic and financial indicators as well as peer analysis to inform the legislature on the state's debt obligations. The state uses a model to estimate debt capacity assuming 25-year amortization and level debt service. Given that Washington's debt levels are already moderately high on most measures, we believe steps to contain the growth of the state's debt burden are favorable for credit quality.

The state budgets for capital spending on a biennial schedule but plans on a rolling, 10-year basis and includes funding sources. A formal investment management policy covers eligible investments, maximum maturities (10 years), allocations of nongovernment securities, and internal and external controls.

Budget Management Framework

Washington adheres to budget management practices we consider generally strong. Across different gubernatorial administrations, when confronted with projected budget gaps, the state's political leadership has demonstrated a willingness to consider difficult fiscal adjustments, including both expenditure and revenue measures. In addition, when deficits emerge midcycle, the state has generally responded with timely corrective actions. Revenue projections are apolitical and are developed according to Washington's independent revenue forecasts. When deficits do emerge, however, the state tends to include nonrecurring measures among its solutions, and its updates-to-actual fiscal performance that includes both revenue and spending trends is not regularly available at intrayear intervals.

On a scale ranging from '1.0' (strongest) to '4.0', we have assigned a score of '1.5' to Washington's financial management.

Economy

Washington continues to experience consistently strong economic growth trends relative to national levels. In 2017, real GDP growth was 4.4%, which represents the highest growth in the country, followed by Colorado at 3.6%. IHS Markit expects the state's real GDP growth to slow through 2022, mirroring trends at the national level. However, the state's growth is expected to remain above that of the nation. Washington experienced year-over-year population growth in 2018 of 1.75%, compared with the national 0.4% growth, and the state's population is forecast to continue to increase by about 1.0% annually for the next few years. Furthermore, Washington's relatively low age-dependency ratio (59.6), good per capita gross state product (118% of the national average as of 2017), and good per capita incomes (112% of the U.S. average for 2017) are characteristic of the state's relatively strong economic profile. Washington has continued to see strong job growth across most sectors and particularly in trade, transportation, and utilities, as well as in construction and education and health. The state unemployment rate has also improved gradually, recorded at 4.3% in December 2018. Economic development prospects remain relatively good, in our view, because of the state's above-average education level among residents, access to ports, and below-average energy costs.

Washington is an important gateway for trade with Asia and Canada, and ranks third in the nation in annual export value and first in export value per capita. Trade helps to diversify Washington's prospects for growth while somewhat insulating the state from U.S. economic cycles. Being a heavy exporter-state also has a downside, however, because it exposes Washington's economy to a strong dollar, adverse changes in trade policy, and fluctuations in economic performance from around the globe. Washington has begun to report the impact on its exports in relation to federal trade tariffs. The state's ERFC, in its November 2018 revenue forecast, reported slowed growth in exports to China, Canada, and the EU through third-quarter 2018. However, during this same time period, exports to Mexico grew slightly.

Large companies such as The Boeing Co., Amazon, and Microsoft have become such monoliths in the Washington economy that company performance or decisions to expand elsewhere can cause notable swings in the state's

economic indicators. Boeing, the state's largest employer with nearly 66,000 full-time employees, accounts for most of Washington's transportation exports. In 2017, civilian aircraft, engines, and parts represented a large 58.4% of total state exports valued at about \$46.5 billion in 2017. This is down from 60.2% in 2016. The decline can be attributed to Boeing's efforts to move jobs out of state, as well as labor-saving automation. The company reported 1,400 layoffs in 2017. However, it has been ramping up production of its 737s to fulfill record numbers of orders from the Middle East, Asia, and Africa. There is some evidence of improvement in 2018 because manufacturing sector exports rose 3.2% as of September 2018, according to IHS Markit.

Also of note, Microsoft plans to expand its headquarters by 2.5 million square feet, invest \$150 million in transportation, and employ as many as 8,000 new employees within the next five to seven years.

The housing market remains strong, particularly in and around the Seattle area. Home prices are up 9.6% over 2017, and housing starts are up 1.6%. However, we see some evidence that growth could stall in the coming years as housing demand is met. IHS Markit projects the state's housing market to decline in 2019 as new construction fades and price growth slows.

On a scale ranging from '1.0' (strongest) to '4.0', we assigned a score of '1.3' to Washington's economy.

Budgetary Performance

The state's lack of a formal policy for its budget reserve level allows low balances to persist through protracted periods of economic and revenue softness. However, during expansionary phases of the economic cycle, Washington consistently returns operating surpluses and good budgetary reserve positions. The state reports that the combined near general fund and BSA reserves as of June 30, 2018, were almost \$3.5 billion, or 7.8% of the 2017-2019 biennium budget (excluding federal expenditures). The fiscal 2019-2021 proposed biennial budget's estimated combined ending balance is \$2.8 billion or 5.1% of biennial expenditures, which we still consider good.

Retail sales, and business and occupation taxes together account for a combined 72% of general fund tax revenues and typically afford more revenue stability than other states, many of which rely on personal income tax revenues. Spending priorities are regularly evaluated through the state's "priorities of government" approach to zero-based budgeting. Independent and formal revenue and caseload forecasts inform budget decisions, and political leaders have demonstrated a willingness to make difficult adjustments when necessary to target structural budget balance.

Similar to many other states, significant spending areas in Washington's budget are largely nondiscretionary. The state estimates that as much as two-thirds of spending--primarily for K-12 education, Medicaid, foster care, debt service, and pensions--is effectively legally required by some combination of the state constitution, statute, court decision, or federal mandate. In addition, over the years, Washington voters have approved initiatives that have reduced the revenue and spending autonomy of the state. The McCleary decision pressured state spending by requiring higher state funding for K-12 school districts.

Washington's liquidity has strengthened markedly since the aftermath of the Great Recession when monthly general fund cash deficits had grown to more than \$1 billion. General fund cash flows generally fluctuate throughout the year

based on timing of receipts. In 2018, there was a \$1.6 billion deficit general fund cash position in March related to a software update and timing of collections. When general fund cash is negative, the state has access to cash for liquidity in its treasury and treasury trust funds, the former of which is subject to legislative appropriation. This cash is held in the custody of the state treasurer, who invests it on a commingled basis. As a result of its good access to internal liquidity, Washington does not rely on external borrowing for cash flow management. Therefore, we continue to view the state's internal liquidity sources as sufficient to support Washington's general fund budget operations--which we expect will remain on track, along with state revenues and the economy more broadly. State authority to defer payments and issue cash flow notes, if needed, also serve as contingency liquidity measures, but Washington managed through the Great Recession without taking these steps.

At the end of December 2018, the state treasury and treasurer's trust fund's month-end cash balance was \$8.0 billion, compared with the average annual \$6.4 billion balance in fiscal 2018. Investments are conservative, in our view, with an average of 53.4% of funds invested in U.S. treasuries and agencies as of Jan. 2, 2019. In addition to Washington's investment guidelines, state policies require that collateral in repurchase agreements (of which the state currently has none) for U.S. Treasury, agency, and money market instruments be priced at 102% of market value. Mortgage-backed repurchase agreements of more than seven days are subject to a higher, 105% requirement.

Fiscal 2018 audited results

According to audited financial statements for fiscal 2018, the state's general fund assigned and unassigned fund balance, on a generally accepted accounting principles basis, was \$3.5 billion, or a good 10.6% of expenditures, which is up from audited fiscal 2017 results. The general fund posted a \$1.2 billion operating surplus net of transfers, which is higher than the \$971 million surplus reported in fiscal 2017 audited statements. In addition, total fund balance improved to \$5.4 billion (a strong 16.3% of expenditures) in fiscal 2018 compared with \$4.2 billion (a strong 13.2% of expenditures) in fiscal 2017.

On a scale ranging from '1.0' (strongest) to '4.0' (weakest), we have assigned a score of '1.8' to Washington's budget performance.

Debt And Liability Profile

Washington's debt is moderately high by several measures, in our opinion, including debt per capita, debt as percent of personal income, and debt service costs to general government spending. In 2015, the legislature passed fuel taxes and certain license fees as part of a transportation revenue package to help fund significant transportation investment in the state over the next 16 years. Washington's transportation revenue forecast council forecasts total transportation revenues of almost \$6.5 billion for the current biennium and about \$6.6 billion for the upcoming biennium. The revenue forecast includes the new revenue from the 2015 transportation package, which will help support \$5.3 billion in authorized and planned GO bond issuance for the total program.

State pension liability

Washington's unfunded pension liability represents its proportionate share of several pension plans and consists primarily of its share of the unfunded liability for Washington Public Employees Retirement System 2 and 3 (PERS 2/3) and Washington Public Employees Retirement System 1 (PERS 1). Washington's proportionate share of all plans'

net pension liability translates into what we view as a relatively small \$171 per capita and 0.3% of personal income. We consider the state's three-year average pension-funded ratio good at nearly 89%. Washington's pension-funded ratio as of June 30, 2018, was rose to 93.7% following strong investment performance.

While statutes require the Office of the State Actuary (OSA) to calculate an actuarially determined contribution (ADC), actual contribution levels across plans do not always meet the ADC. With its biennial budget process, the state legislature appropriates pension contributions every two years. Although contributions have historically been set to equal the contractually required contribution, they frequently fall short of the ADC because they are not adjusted after the budget is adopted. In addition, adopted contribution levels for most plans have been different than OSA's calculated ADC due to legislative actions, such as the 2014 legislature's adoption of contribution levels for several pension plans, which phased in increases over a relatively lengthy, six-year period to incorporate certain changes to mortality assumptions as of the most recent experience study. Furthermore, we calculate that average total annual plan contributions in the previous three years did cover a level equal to service cost and an interest cost component plus some amortization of the unfunded liability across plans. Trends have been improving in recent years and contributions were approximately 125% of our calculation of costs in fiscal 2018.

We believe, on the whole, management factors and actuarial inputs do not significantly worsen or improve our view of the state's overall pension funding discipline. PERS 1 assumes a rolling 10-year amortization period and uses a "level percentage of pay" method, which assumes rising future payroll and results in escalating pension contributions over time. The actual average net investment return for the five years through fiscal 2018 for both PERS 1 and PERS 2/3 of 9.75% exceeds the actuarial assumed 7.50% rate of return. In fiscal 2018, both plans reported investment returns above actuarially assumed levels at 9.55% and 9.56%, respectively; however, these were below the strong investment performance recorded in fiscal 2017 (13.84% for PERS 1 and 14.10% for PERS 2/3). No plans have projected an asset depletion date under Governmental Accounting Standards Board (GASB) 67, which we believe is reasonable given current assumptions. Since PERS 1 is closed to new members and projected benefit payments are declining, the ratio of active members to beneficiaries of 0.04 is well below the median national ratio of 1.4. The PERS 1 plan-funded ratio of 63.2% in fiscal 2018 is relatively low, in our opinion, although cash flow projections reflect a fairly short horizon of future plan contributions through 2031, assuming plan assets will generate the assumed annual rate of return to pay remaining member benefits as the plan winds down. On the other hand, PERS 2/3 has a strong 2.8 active-to-beneficiary ratio relative to the national median, and what we consider a strong 95.8% plan-funded ratio. We believe the system generally incorporates experience trends and industry standards in its experience studies and updates its economic experience studies every two years; however, updates to the demographic experience studies occur every six years, which we believe is relatively infrequent. An updated economic experience study was issued in August 2017.

State OPEB liability

Washington, through a state authority, administers a single-employer OPEB plan. The state provides both an explicit and implicit subsidy for these retiree health benefits. Washington's OPEBs produce an implicit liability by allowing retired employees to purchase health, life, dental, and disability insurance in the same pool as current employees at a subsidized rate. The explicit benefit subsidizes retired members' monthly premiums up to \$150 per member per month for enrollment in Medicare Parts A and B.

The OPEB plan is funded on a pay-as-you-go basis; the plan reports no assets. Under GASB 75, the state reports a total OPEB liability of \$5.82 billion for the fiscal year ended on June 30, 2018. This translates into about \$786 per capita, which is below the national median.

We understand that Washington does not plan to fully fund OPEB on an actuarial basis for the foreseeable future.

On a scale ranging from '1.0' (strongest) to '4.0', we have assigned a score of '2.3' to Washington's debt and liability profile.

Ratings Detail (As Of January 25, 2019)		
State of Washington motor vehicle fuel tax GO bnds ser 2018B due 08/01/2042		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington motor vehicle fuel tax GO bnds ser 2018D due 02/01/2043		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington motor vehicle fuel tax GO rfdg bnds ser R-2016C dtd 02/16/2016 due 07/01/2016 2019-2033		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington motor vehicle fuel tax GO rfdg bnds ser R-2017B due 07/01/2034		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington motor vehicle fuel tax GO rfdg bnds ser R-2018B due 08/01/2023		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington motor veh fuel tax go bnds ser 2016B dtd 09/20/2016 due 08/01/2017-2041		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington motor veh fuel tax go bnds (SR 520 Corridor Prog-toll Rev) ser 2016C dtd 09/20/2016 due 06/01/2017-2041		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington motor veh fuel tax GO bnds ser 2019B due 06/01/2043		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington motor veh fuel tax GO bnds (Competitive & Negotiated Sale) ser 2012B-1&2 dtd 08/03/2011 due 08/01/2012-2041		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington motor veh fuel tax GO rfdg bnds ser R-2011C dtd 09/28/2010 due 01/01/2011 & 07/01/2012-2027		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington motor veh fuel tax GO rfdg bnds ser R-2015B due 07/01/2026		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington mtr vehicle fuel tax GO bnds ser 2017E dtd 01/24/2017 due 02/01/2018-2042		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington mtr veh fuel tax GO bnds ser 2009F dtd 04/21/2009 due 02/01/2010-2030 2034		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington mtr veh fuel tax GO bnds ser 2012E due 02/01/2042		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington mtr veh fuel tax GO bnds ser 2013E dtd 02/05/2013 due 02/01/2014-2039 2043		
<i>Long Term Rating</i>	AA+/Stable	Affirmed

Ratings Detail (As Of January 25, 2019) (cont.)

State of Washington mtr veh fuel tax GO bnds ser 2014B dtd 08/21/2013 due 08/01/2038		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington mtr veh fuel tax GO bnds ser 2016B dtd 10/08/2015 due 08/01/2016-2040		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington mtr veh fuel tax GO rfdg bnds ser R-2017D dtd 01/24/2017 due 08/01/2017-2025		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington mtr veh fuel tax GO rfdg bnds ser R-2012-B dtd 11/09/2011 due 01/01/2012 & 07/01/2014-2024		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington var purp go bnds & mtr veh fuel tax (ferry vessel) dtd 06/01/1991 due 06/01/1992		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington GO bnds (Motor Vehicle Fuel Tax) ser 2009B dtd 07/23/2008 due 07/01/2009-2033		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington GO bnds (Motor Vehicle Fuel Tax) ser 2009D dtd 01/22/2009 due 02/01/2010-2034		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
State of Washington Motor Vehicle Fuel Tax GO bnds (Taxable BABs) ser 2010F dtd 06/01/2010 due 08/01/2015-2024 2031 2033 2040		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Unenhanced Rating</i>	AA+(SPUR)/Stable	Affirmed
Washington GO		
<i>Unenhanced Rating</i>	AA+(SPUR)/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Unenhanced Rating</i>	AA+(SPUR)/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed

Ratings Detail (As Of January 25, 2019) (cont.)

Washington GO		
<i>Unenhanced Rating</i>	AA+(SPUR)/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Unenhanced Rating</i>	AA+(SPUR)/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed

Ratings Detail (As Of January 25, 2019) (cont.)

Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Long Term Rating</i>	AA+/Stable	Affirmed
Washington GO		
<i>Unenhanced Rating</i>	AA+(SPUR)/Stable	Affirmed
FYI Properties, Washington		
State of Washington, Washington		
FYI Properties (Washington) APPROP		
<i>Long Term Rating</i>	AA/Stable	Affirmed

Many issues are enhanced by bond insurance.

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