

working in both the Water System and the Electric System are allocated on the basis of time worked for each division.

Employees

For Fiscal Year 2020-21, the City has budgeted approximately 139 full time employees (FTE) for the Water System. Most Water System employees are represented either by the International Brotherhood of Electrical Workers, International Union of Operating Engineers, the American Federation of State, County and Municipal Employees, the Laborers' International Union of North America or the Pasadena Management Association in all matters pertaining to wages, benefits and working conditions. The labor agreement with the Pasadena Management Association has expired and a successor agreement is being negotiated. The labor agreement with the International Union of Operating Engineers will expire in December 2020 while the other labor agreements will expire in June 2022. The City has no history of work interruption by employees maintaining the Water System See APPENDIX A – "THE CITY OF PASADENA – Employee Relations."

The Water System's permanent employees are all covered by the California Public Employees Retirement System ("CalPERS") with respect to pension benefits. CalPERS is an agent multiple-employer plan public employee retirement system which acts as a common investment and administrative agent for participating public employers within the State of California. The plan provides retirement and disability benefits, annual cost-of-living adjustments and death benefits to plan members and their beneficiaries. CalPERS issues a separate publicly available financial report that includes financial statements and required supplemental information of participating public entities within the State of California. Copies of the CalPERS annual financial report may be obtained from the CalPERS Executive Office, Lincoln Plaza Complex, 400 Q Street, Sacramento, California 95811 or at www.calpers.ca.gov.

The law relating to CalPERS requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. Funding contribution for the City's Miscellaneous Plan ("Plan") (which include all Water System employees) is determined annually on an actuarial basis as of June 30 by CalPERS. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The City is required to contribute the difference between the actuarially determined rate and the contribution rate of employees.

Effective with Fiscal Year 2014-15 financial statements, GASB 27 has been replaced with GASB 68 - Accounting and Financial Reporting for Pensions, with new pension reporting requirement for employers. The City's net pension liability for the Plan is measured as the total pension liability, less the pension plan's fiduciary net position. The net pension liability of the Plan is measured as of June 30, 2018, using an annual actuarial valuation as of June 30, 2017 rolled forward to June 30, 2018 using standard update procedures. The actuarial methods and assumptions used to determine the total pension liability include entry age normal cost method in accordance with the requirements of GASB 68, an inflation rate of 2.75%, salary increase by entry age and service, an investment rate of return (net of administrative expenses) of 7.5%, and a mortality rate table derived using CalPERS' membership data for all funds. The discount rate used to measure the total pension liability was 7.15%. Based on CalPERS stress testing, it was determined that the discount rate is adequate and the use of the municipal bond rate calculation is not necessary. All other actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from 1997 to 2011, including updates to salary increase, mortality and retirement rates.

The City's required contributions to CalPERS fluctuate each year and include a normal cost component and a component equal to an amortized amount of the unfunded liability. Many assumptions

are used to estimate the ultimate liability of pensions and the contributions that will be required to meet those obligations. The CalPERS Board of Administration has adjusted and may in the future further adjust certain assumptions used in the CalPERS actuarial valuations, which adjustments may increase the City's required contributions to CalPERS in future years. Actuarial assumptions used by PARs in calculating actuarially determined contributions and other actuarially determined amounts are consistent with those used by CalPERS. Accordingly, the City cannot provide any assurances that the City's required contributions to CalPERS and PARS in future years will not significantly increase (or otherwise vary) from any past or current projected levels of contributions.

Under GASB 68, gains and losses related to changes in total pension liability and fiduciary net position are recognized in pension expense systematically over time. The first amortized amounts are recognized in pension expense for the year the gain or loss occurs. The remaining amounts are categorized as deferred outflows and deferred inflows of resources related to pensions and are to be recognized in future pension expense. Difference between projected and actual earnings uses five year straight-line amortization while all other amounts use straight-line basis over the average expected remaining service lives ("EARSL") of all members that are provided with benefits (active, inactive, and retired) as of the beginning of the measurement period. The EARSL for the 2017-18 measurement periods is 3.5 years for the Plan.

As of the start of the measurement period (July 1, 2017), the net pension liability of the City's Miscellaneous Plan was \$313,028,278. For the measurement period ending June 30, 2018, the City incurred a pension expense of \$36,200,116 for the Plan and the net pension liability balance was \$299,379,576 which was the total pension liability of \$1,124,521,080 minus the plan fiduciary net position of \$825,123,504. The deferred inflows of the resources related to the Plan were \$13,584,068, and the deferred outflows of resources were \$56,238,893.

The Water System's contributions represent a pro rata share of the City's contribution, including the employees' contribution that is paid by the Water Fund, which is based on CalPERS' actuarial determination as of July 1 of the current Fiscal Year. CalPERS does not provide data to participating organizations in such a manner so as to facilitate separate disclosure for the Water Fund's share of the actuarial computed pension benefit obligation, the plan's net assets available for benefit obligation and the plan's net assets available for benefits. The Water System employees represent approximately 3.4% of the full-time City employees.

Other than the pension benefits from the applicable retirement system, the City does not provide medical or other post-retirement benefits to its employees beyond the option to continue receiving health insurance benefits at the City's monthly rates, paid by the retired employees.

The City provides a subsidy to retirees of the City who are members of CalPERS or the Pasadena Fire and Police Pension System. Benefit provisions are established and amended through negotiations between the City and the respective unions. Two different levels of subsidy toward the purchase of medical insurance from CalPERS under the Public Employees' Medical and Hospital Care Act are offered.

The City's current contribution (2019) requirements have been established at the individual retiree levels of \$136.00 or \$88.40 per month depending on bargaining unit membership and policy enacted by CalPERS pursuant to State Law. These minimum requirements are established by CalPERS and adjusted annually. The prior contribution requirements (2018) were \$133.00 or \$79.80 per month depending on the bargaining unit or the unrepresented group of which the employee was a member. The City has historically funded these post-retirement health care benefits on a "pay-as-you-go" basis. For the Fiscal Year ended June 30, 2019, the City recognized OPEB expense of \$6,250,566. At the end of the Fiscal Year, the City had net OPEB liability of \$77,001,040 and reported OPEB related deferred inflows of resources of

\$620,832 and outflows of resources of \$2,931,670. The Water System is allocated its portion of the required contributions. As of June 30, 2019, Water Fund's net OPEB liability was \$4,273,874.

See "APPENDIX A – THE CITY OF PASADENA – Employee Relations" and – Post-Retirement Medical Benefits." Further information regarding the City's participation in CalPERS and OPEB may also be found in the City's Comprehensive Annual Financial Report.

Insurance

The City funds a self-insured and self-administered program for workers' compensation claims exposures and general liability claims. Liability claims, losses and expenses paid averaged about \$1,474,387 per year for the past 10 years and, when existing "reserves" are added, averaged around \$12,824,957 in liability exposure per year over the past 10 years. The City anticipates these expenses annually and includes funding for them in its operating budget. The City carries excess liability coverage, with limits of \$25 million, with a self-insured retention of \$5 million dollars per occurrence. The amount of self-insured liability claim expenditures and remaining reserves with respect to claims made in each of fiscal years 2009-10 through 2018-19 are reflected in the following table:

TABLE 13
CITY OF PASADENA
LIABILITY CLAIM EXPENDITURES AND REMAINING RESERVES
Fiscal Years 2009-10 through 2018-19

Fiscal Year ⁽¹⁾ Ended June 30,	Loss Paid	Expense Paid	Total Paid	Remaining Reserves for Unpaid Claims ⁽¹⁾
2010	639,876	24,824	664,700	2,565,000
2011	897,721	10,283	908,004	2,111,700
2012	2,003,021	366,983	2,370,004	5,295,580
2013	166,779	-	166,779	968,501
2014	824,398	511,595	1,335,993	4,060,646
2015	431,798	917,307	1,349,106	74,026,667 ⁽²⁾
2016	3,141,673	633,406	3,775,079	9,140,077
2017	1,962,736	1,550,119	3,512,855	8,396,569
2018	264,791	345,766	610,557	5,364,733
2019	49,918	877	50,795	1,576,223

⁽¹⁾ Reserves reflect fiscal year in which claim occurred. Payments reflect money spent on all claims during a fiscal year.

⁽²⁾ Amount includes a \$51.3 million reserve for a lawsuit involving a 25% extra-territorial water surcharge, which has since been settled.

Source: City of Pasadena, Department of Finance.

The City maintains commercial property insurance on all City-owned building, including Equipment Breakdown. The policy includes coverage for fine arts, valuable papers, business personal property, business income and extended business income or rental value. Policy limits are \$250,000,000 with a deductible of \$25,000 for Earthquake Sprinkler Leakage, \$100,000 for Flood, and \$25,000 for any other covered loss. Exclusions include earthquake, collapse of buildings and nuclear hazard. There have no new claims during Fiscal Year 2019-20.

In an effort to protect the City's assets and transfer potential risk, the City also purchases the following insurance policies: Medical Malpractice; Pollution Liability; Terrorism for Property and Business

Interruption and Terrorism & Sabotage Insurance; Auto Physical Damage; Cyber Risk Privacy Liability; Fiduciary (purchased for and by the Fire and Police Retirement System); and Crime policies.

Historical Operating Results and Cash Flows

The following table presents the historical operating results and cash flows for the Water System for the last five Fiscal Years.

TABLE 14
HISTORICAL OPERATING RESULTS AND CASH FLOWS
(\$ in Thousands)

	Fiscal Year Ended June 30,				
	2016	2017	2018	2019	2020 ⁽⁴⁾
Revenue					
Sales Within City Limits	\$33,966	35,922	38,958	37,071	38,673
Sales Outside City Limits	6,339	6,734	7,442	7,158	7,467
Municipal Sales & Misc. Others ⁽¹⁾	<u>10,530</u>	<u>15,631</u>	<u>16,192</u>	<u>15,952</u>	<u>16,091</u>
Total Operating Revenues	<u>50,835</u>	<u>58,287</u>	<u>62,592</u>	<u>60,181</u>	<u>62,231</u>
Operating Expenses					
Purchased Water	17,216	18,701	21,446	20,846	21,250
Fuel and Purchased Power	2,278	2,410	2,640	2,422	2,616
Direct Operating Expenses	8,155	11,767	9,694	10,542	11,051
Administrative and General Expenses	<u>7,851</u>	<u>9,235</u>	<u>10,021</u>	<u>11,511</u>	<u>12,066</u>
Total Expenses ⁽²⁾	<u>35,500</u>	<u>42,113</u>	<u>43,801</u>	<u>45,321</u>	<u>46,983</u>
Earnings from Operations	15,335	16,174	18,791	14,860	15,248
Non-Operating Income ⁽³⁾	<u>7,463</u>	<u>4,945</u>	<u>4,867</u>	<u>6,720</u>	<u>5,621</u>
Cash Flow Available for Debt Service	22,798	21,119	23,658	21,580	20,869
Debt Service	7,086	8,055	6,981	6,982	5,589
Debt Service Coverage	<u>3.22x</u>	<u>2.62x</u>	<u>3.39x</u>	<u>3.09x</u>	<u>3.73x</u>
Amount Available after Debt Service	<u>\$15,712</u>	13,064	16,677	14,598	15,280

⁽¹⁾ Includes CIC revenue.

⁽²⁾ Excludes depreciation and interest cost.

⁽³⁾ Includes interest income and capital contributions.

⁽⁴⁾ The information for the Fiscal Year ended June 30, 2020 is based on estimated information.

Sources: Pasadena Water and Power Department.

Projected Coverage and Five-Year Forecast

Table 15 shows a summary of the projected operating results of the Water System for the five Fiscal Years listed, assuming CIC and distribution and customer charge increases, as described below. In the preparation of the projections in this section, the City has made certain assumptions with respect to conditions that may occur in the future. While the City believes these assumptions are reasonable for the purpose of the projections, they are dependent on future events, and actual conditions may differ from those assumed. **To the extent actual future factors differ from those assumed by the City or provided to the City by others, the actual results will vary from those forecast and such variations may be material.** The City does not plan to issue any updates or revisions to the forecast if or when its assumptions, expectations, or events, conditions or circumstances on which such forecast is based, occur or do not occur.

Table 15 revenue projection assumptions include (a) an annual sales growth rate of approximately 0.5%; (b) increases in the CIC revenue of approximately \$3.3 million in Fiscal Year 2022 and \$3.0 million in Fiscal Year 2023; and (c) purchased water adjustment charge revenue increases of \$1.4 million in Fiscal Year 2022, \$1.1 million in Fiscal Year 2023, \$1.3 million in Fiscal Year 2024 and \$1.3 million in Fiscal Year 2025. Projected increases to the Distribution and Customer charge is expected to increase the system average rate by 2.5% in Fiscal Year 2023, 1.7% in Fiscal Year 2024 and 1.0% in Fiscal Year 2025, resulting in annual increases in revenues of \$2.0 million in Fiscal Year 2023, \$1.5 million in Fiscal Year 2024 and \$1.0 million in Fiscal Year 2025.

Table 15 expense projections assume 5.0% annual escalation in general and administrative expenses, an average annual increase in purchased water costs of 3.5%, and a 1.2% average annual increase in the cost of purchased power.

**TABLE 15
OPERATING STATEMENT
FIVE YEAR FORECAST
(\$ in Thousands)**

	Fiscal Year Ended June 30,				
	2021⁽⁵⁾	2022	2023	2024	2025
Revenue					
Sales Within City Limits	\$43,700	45,293	47,860	50,195	52,126
Sales Outside City Limits	8,438	8,746	9,241	9,692	10,065
Municipal Sales & Misc. Others ⁽¹⁾	<u>16,415</u>	<u>19,426</u>	<u>22,712</u>	<u>22,993</u>	<u>23,251</u>
Total Revenues	<u>68,553</u>	<u>73,465</u>	<u>79,813</u>	<u>82,880</u>	<u>85,442</u>
Operating Expenses					
Purchased Water	22,105	23,465	24,585	25,857	27,149
Fuel and Purchased Power	2,858	2,909	2,924	2,982	2,997
Direct Operating Expenses	13,401	12,459	12,833	13,218	13,615
Administrative and General Expenses	<u>14,630</u>	<u>15,925</u>	<u>16,403</u>	<u>16,895</u>	<u>17,402</u>
Total Expenses ⁽²⁾	<u>52,994</u>	<u>54,758</u>	<u>56,745</u>	<u>58,952</u>	<u>61,163</u>
Earnings from Operations	15,559	18,707	23,068	23,928	24,279
Non-Operating Income ⁽³⁾	<u>4,873</u>	<u>3,202</u>	<u>4,705</u>	<u>2,958</u>	<u>2,958</u>
Cash Flow Available for Debt Service	20,432	21,909	27,773	26,886	27,237
Total Debt Service ⁽⁴⁾	5,723	5,716	5,669	5,617	5,552
Debt Service Coverage	<u>3.57x</u>	<u>3.83x</u>	<u>4.90x</u>	<u>4.79x</u>	<u>4.91x</u>
Amount Available after Debt Service	\$14,709	16,193	22,104	21,269	21,685

⁽¹⁾ Includes CIC, D&C and Purchased Water Adjustment Cost Revenues.

⁽²⁾ Assumes increase in purchased water expense consistent with MWD approved budget and excludes Depreciation and Interest Expense.

⁽³⁾ Includes Interest Income and Capital Contributions.

⁽⁴⁾ Includes debt service for the 2011A Bonds, the 2017A Bonds and projected for the 2020A Bonds.

⁽⁵⁾ Reflects COVID impact in Fiscal Year 2021 and modest sales growth of 0.5% from Fiscal year 2020 through Fiscal Year 2025.

Sources: Pasadena Water and Power Department.

CONSTITUTIONAL AND STATUTORY LIMITATIONS ON TAXES AND APPROPRIATIONS

Article XIII A of the California Constitution

If a portion of PWP's rates or charges were determined by a court to exceed the reasonable costs of providing service, any fee which PWP charges may be considered to be a "special tax" which under Article XIII A of the State Constitution must be authorized by a two-thirds vote of the affected electorate. This requirement is applicable to PWP's rates for water service and charges for capital improvements to

the Water System. The reasonable cost of providing water service has been determined by the State Controller to include depreciation and allowance for the cost of capital improvements. In addition, State courts have held that fees such as connection fees (capacity charges) will not be special taxes if they approximate the reasonable cost of constructing improvements to the Water System contemplated by the local agency imposing the fee. Such court determinations have been codified in the Government Code of the State of California (Section 6000 *et seq.*).

Article XIII B of the California Constitution

Article XIII B of the State Constitution limits the annual appropriations of State and local governmental entities to the amount of appropriations of the entity for the prior Fiscal Year, as adjusted for changes in the cost of living, changes in population and changes in services rendered by the entity.

Pending clarification of certain of its provisions by the courts, or by the State Legislature, the full impact of Article XIII B on the amounts and uses of moneys to be deposited in the Water Fund is not clear. However, to the extent moneys in the Water Fund are used to pay costs of maintaining and operating the Water System and debt service on the Bonds and Parity Debt, such moneys should not, under the terms of Article XIII B, as supplemented by legislation, and based upon the official ballot argument supporting the measure, be held to be subject to the appropriation limit.

Article XIII C and XIII D of the California Constitution

Proposition 218, a state ballot initiative known as the "Right to Vote on Taxes Act" was approved by California voters on November 5, 1996 and, except for certain provisions which became effective on July 1, 1997, became effective on November 6, 1996. Proposition 218 added Article XIII C, entitled "Voter Approval of Local Tax Levies" ("Article XIII C"), and Article XIII D, entitled "Assessment and Property Related Fee Reform" ("Article XIII D"), to the California Constitution. Article XIII C and Article XIII D limit the imposition by a local government of "general taxes," "special taxes," "assessments" and "fees" or "charges." The City is a local government within the meaning of Article XIII C and Article XIII D.

Article XIII C, provides, among other things, that the initiative power shall not be prohibited or otherwise limited in matters of reducing or repealing any local fee or charge. This extension of the initiative power is not limited by the terms of Article XIII C to fees and charges imposed after November 6, 1996 and, absent other authority, could result in retroactive reduction in existing fees and charges. Although the terms "fees" and "charges" are not defined in Article XIII C, the California Supreme Court, in *Bighorn-Desert View Water Agency v. Kari Verjil; E.W. Kelley* (July 2006), has stated that there is no basis for excluding from Article XIII C's authorization any of the fees subject to Article XIII D. If fees or charges charged or collected by the City for its Water System are subjected to the initiative process and the outcome of any initiative proceedings results in a reduction or repeal of such fees or charges, the ability of the City to generate Gross Aggregate Revenues sufficient to comply with its covenants under the Indenture may be adversely affected. Furthermore, if voters were to approve an initiative lowering the City's water rates or other charges, the City would need voter approval before it could change the rate or charge that had been set by initiative. The City could, however, increase a charge that was not affected by initiative or to impose an entirely new charge without voter approval.

The California Supreme Court further stated in *Bighorn* that it was not holding that the initiative power is free of all limitations and was not determining whether the initiative power is subject to the statutory provision requiring that water service charges be set at a level that will pay debt service on bonded debt and operating expenses. Such initiative power could be subject to the limitations imposed on the impairment of contracts under the contract clause of the United States Constitution. Additionally, SB 919 provides that the initiative power provided for in Proposition 218 "shall not be construed to mean that any

owner or beneficial owner of a municipal security, purchased before or after (the effective date of Proposition 218) assumes the risk of, or in any way consents to, any action by initiative measure that constitutes an impairment of contractual rights” protected by the United States Constitution. However, no assurance can be given that the voters of the City will not, in the future, approve an initiative which reduces or repeals local taxes, assessments, fees or charges.

Article XIID prohibits the assessment upon any parcel of property or upon any person “as an incident of property ownership” (defined to exclude fees for the provision of electrical or gas service) by a local government of any tax, assessment, fee or charge except voter-approved ad valorem property taxes and special taxes, fees or charges as a condition of property development, and assessments and “fees or charges for property related services” levied or imposed in accordance with the provisions of Article XIID.

Under Article XIID, revenues derived from a “fee” or “charge” (defined as “any levy other than an ad valorem tax, a special tax or an assessment, imposed by a local government upon a parcel or upon a person as an incident of property ownership, including user fees or charges for a property related service”) may not exceed the funds required to provide the “property-related service” and may not be used for any purpose other than that for which the fee or charge was imposed. Further, the amount of a “fee” or “charge” may not exceed the proportional cost of the service attributable to the parcel, no “fee” or “charge” may be imposed for a service unless that service is actually used by, or is immediately available to, the owner of the property in question, and no “fee” or “charge” may be imposed for general governmental service where the service is “available to the public at large in substantially the same manner as it is to the property owners.”

In addition, in order for a “fee” or “charge” to be imposed or increased, Article XIID provides that, among other things, the parcel upon which a fee or charge is proposed for imposition must be identified, the amount of the fee or charge proposed to be imposed on each such parcel must be calculated, written notice by mail of the proposed fee or charge must be provided to the “record owner” of each identified parcel, and a public hearing must be conducted upon the proposed fee or charge. If written protests against the proposed “fee” or “charge” are presented by a majority of owners of the identified parcels, the fee or charge may not be imposed. The California Supreme Court in *Bighorn* indicated that once a property owner or resident has paid the connection charges and has become a customer of a public water agency, all charges for water delivery incurred thereafter are charges for a property-related service, whether the charge is calculated on the basis of consumption or is imposed as a fixed monthly fee. Accordingly, the imposition or increase of any fee or charge by the City for its water service will be the subject of such a majority protest. If such a majority protest occurs, the ability of the City to generate Gross Aggregate Revenues sufficient to comply with its covenants under the Indenture may be adversely affected.

Article XIID states that, beginning July 1, 1997, all “fees” or “charges” must comply with its provisions. It is unclear how the provisions of Article XIID will be applied to fees or charges established prior to such date. It is also unclear how the provisions of Article XIID will be applied to fees or charges established after such date but prior to the *Bighorn* decision.

As a result of the *Bighorn* decision, there can be no assurance that Proposition 218 will not limit the ability of the City to impose, levy, charge and collect increased fees and charges for water services.

Prior to 2008, the City did not comply with the applicable notice and protest procedures of Article XIID for its water rate increases. Since 2008, the City has followed the notice, hearing and protest procedures in Article XIID in connection with its water rate increased and plans to follow such notice, hearing and protest procedure in connection with future rate increases.

The City is unable to predict how Article XIIC and Article XIID will be interpreted by the courts in the future. Bond Counsel has advised that there can be no assurance that Article XIIC and Article XIID will not limit the ability of the City to charge and collect fees and charges for its water service sufficient to enable the City to comply with its covenants under the Indenture or that the ability of the City to generate Gross Aggregate Revenues sufficient to pay principal and interest on the 2020A Bonds will not be adversely affected. See “SECURITY AND SOURCES OF PAYMENT FOR THE 2020A BONDS – Rate Covenant” and “LITIGATION.” Further, in such event, there can be no assurance that remedies will be available to fully protect the interests of the holders of the 2020A Bonds. See “SECURITY AND SOURCES OF PAYMENT FOR THE 2020A BONDS – Limitations on Remedies.”

Proposition 26

Proposition 26 was approved by the electorate at the November 2, 2010 election and amended California Constitution Articles XIII A and XIIC. The proposition imposes a two-thirds voter approval requirement for the imposition of fees and charges by the State. It also imposes a majority voter approval requirement on local governments with respect to fees and charges for general purposes, and a two-thirds voter approval requirement with respect to fees and charges for special purposes. Proposition 26, according to its supporters, was intended to prevent the circumvention of tax limitations imposed by the voters pursuant to Proposition 13, approved in 1978, Proposition 218, and other measures through the use of non-tax fees and charges. Proposition 26 expressly excludes from its scope “a charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable cost to the State or local government of providing the service or product to the payor” and “assessments and property-related fees imposed in accordance with the provisions of Article XIID.” The California Supreme Court has stated that a fee for ongoing water service through an existing connection is imposed “as an incident of property ownership” within the meaning of Article XIID. See “– Article XIIC and Article XIID of the California Constitution” above. The City believes its water rates and charges meet the criteria for exclusion described above. The City is unable to predict, however, how Proposition 26 will be interpreted by the courts or what its ultimate impact, if any, will be.

Future Initiatives

Articles XIII A, XIIB, XIIC and XIID were adopted as measures that qualified for the ballot pursuant to California’s initiative process. From time to time other initiatives have been and could be proposed and adopted affecting PWP’s revenues or ability to increase revenues. Neither the nature and impact of these measures nor the likelihood of qualification for ballot or passage can be anticipated by the City.

RATINGS

Fitch Ratings, Inc. (“Fitch”) and S&P Global Ratings have assigned their municipal bond ratings of “___” and “___,” respectively, to the 2020A Bonds. Such ratings reflect only the views of such organizations and any desired explanation of the significance of such ratings may be obtained from the rating agency furnishing the same, at the following addresses: Fitch Ratings, Inc., One State Street Plaza, New York, New York 10004; and S&P Global Ratings, 55 Water Street, New York, New York 10041. Generally, a rating agency bases its rating on the information and materials furnished to it and on investigations, studies and assumptions of its own. There is no assurance that any of such ratings will continue for any given period of time or that such ratings will not be revised downward or withdrawn entirely by the applicable rating agency, if in the judgment of such rating agency circumstances so warrant. Any such downward revision or withdrawal of such ratings may have an adverse effect on the 2020A Bonds.

TAX MATTERS

Federal Income Taxes

The Internal Revenue Code of 1986, as amended (the "Code"), imposes certain requirements that must be met subsequent to the issuance and delivery of the 2020A Bonds for interest thereon to be and remain excluded from gross income for federal income tax purposes. Noncompliance with such requirements could cause the interest on the 2020A Bonds to be included in gross income for federal income tax purposes retroactive to the date of issue of the 2020A Bonds. Pursuant to the Fiscal Agent Agreement and the Tax Certificate the City has covenanted to comply with the applicable requirements of the Code in order to maintain the exclusion of the interest on the 2020A Bonds from gross income for federal income tax purposes pursuant to Section 103 of the Code. In addition, the City has made certain representations and certifications in the Fiscal Agent Agreement and the Tax Certificate. Bond Counsel will not independently verify the accuracy of those representations and certifications.

In the opinion of Nixon Peabody LLP, Bond Counsel, under existing law and assuming compliance with the aforementioned covenant, and the accuracy of certain representations and certifications made by the City described above, interest on the 2020A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Code. Bond Counsel is also of the opinion that such interest is not treated as a preference item in calculating the alternative minimum tax imposed under the Code.

In rendering these opinions, Bond Counsel has relied upon representations and covenants of the City concerning the property financed with 2020A Bond proceeds, the investment and use of 2020A Bond proceeds and the rebate to the federal government of certain earnings thereon. In addition, Bond Counsel has assumed that all such representations are true and correct and that the City will comply with such covenants. Bond Counsel has expressed no opinion with respect to the exclusion of the interest on the 2020A Bonds from gross income under Section 103(a) of the Code in the event that any of such representations by the City are untrue or the City fails to comply with such covenants, unless such failure to comply is based on the advice or the opinion of Bond Counsel.

State Taxes

Bond Counsel is also of the opinion that interest on the 2020A Bonds is exempt from personal income taxes of the State of California under present State law. Bond Counsel expresses no opinion as to other state or local tax consequences arising with respect to the 2020A Bonds nor as to the taxability of the 2020A Bonds or the income therefrom under the laws of any state other than California.

Original Issue Discount

Bond Counsel is further of the opinion that the excess of the principal amount of a maturity of the 2020A Bonds over its issue price (i.e., the first price at which price a substantial amount of such maturity of the 2020A Bonds was sold to the public, excluding bond houses, brokers or similar persons or organizations acting in the capacity of underwriters or wholesalers) (each, a "Discount Bond" and collectively the "Discount Bonds") constitutes original issue discount which is excluded from gross income for federal income tax purposes to the same extent as interest on the 2020A Bonds. Further, such original issue discount accrues actuarially on a constant interest rate basis over the term of each Discount Bond and the basis of each Discount Bond acquired at such issue price by an initial purchaser thereof will be increased by the amount of such accrued original issue discount. The accrual of original issue discount may be taken into account as an increase in the amount of tax-exempt income for purposes of determining various other tax consequences of owning the Discount Bonds, even though there will not be a corresponding cash

payment. Owners of the Discount Bonds are advised that they should consult with their own advisors with respect to the state and local tax consequences of owning such Discount Bonds.

Original Issue Premium

2020A Bonds sold at prices in excess of their principal amounts are “Premium Bonds”. An initial purchaser with an initial adjusted basis in a Premium Bond in excess of its principal amount will have amortizable bond premium which is not deductible from gross income for federal income tax purposes. The amount of amortizable bond premium for a taxable year is determined actuarially on a constant interest rate basis over the term of each Premium Bond based on the purchaser’s yield to maturity (or, in the case of Premium Bonds callable prior to their maturity, over the period to the call date, based on the purchaser’s yield to the call date and giving effect to any call premium). For purposes of determining gain or loss on the sale or other disposition of a Premium Bond, an initial purchaser who acquires such obligation with an amortizable bond premium is required to decrease such purchaser’s adjusted basis in such Premium Bond annually by the amount of amortizable bond premium for the taxable year. The amortization of bond premium may be taken into account as a reduction in the amount of tax-exempt income for purposes of determining various other tax consequences of owning such 2020A Bonds. Owners of the Premium Bonds are advised that they should consult with their own advisors with respect to the state and local tax consequences of owning such Premium Bonds.

Ancillary Tax Matters

Ownership of the 2020A Bonds may result in other federal tax consequences to certain taxpayers, including, without limitation, certain S corporations, foreign corporations with branches in the United States, property and casualty insurance companies, individuals receiving Social Security or Railroad Retirement benefits, individuals seeking to claim the earned income credit, and taxpayers (including banks, thrift institutions and other financial institutions) who may be deemed to have incurred or continued indebtedness to purchase or to carry the 2020A Bonds. Prospective investors are advised to consult their own tax advisors regarding these rules.

Interest paid on tax-exempt obligations such as the 2020A Bonds is subject to information reporting to the Internal Revenue Service (the “IRS”) in a manner similar to interest paid on taxable obligations. In addition, interest on the 2020A Bonds may be subject to backup withholding if such interest is paid to a registered owner that (a) fails to provide certain identifying information (such as the registered owner’s taxpayer identification number) in the manner required by the IRS, or (b) has been identified by the IRS as being subject to backup withholding.

Bond Counsel is not rendering any opinion as to any federal tax matters other than those described in the opinions attached as Appendix F. Prospective investors, particularly those who may be subject to special rules described above, are advised to consult their own tax advisors regarding the federal tax consequences of owning and disposing of the 2020A Bonds, as well as any tax consequences arising under the laws of any state or other taxing jurisdiction.

Changes in Law and Post Issuance Events

Legislative or administrative actions and court decisions, at either the federal or state level, could have an adverse impact on the potential benefits of the exclusion from gross income of the interest on the 2020A Bonds for federal or state income tax purposes, and thus on the value or marketability of the 2020A Bonds. This could result from changes to federal or state income tax rates, changes in the structure of federal or state income taxes (including replacement with another type of tax), repeal of the exclusion of the interest on the 2020A Bonds from gross income for federal or state income tax purposes, or otherwise.

It is not possible to predict whether any legislative or administrative actions or court decisions having an adverse impact on the federal or state income tax treatment of holders of the 2020A Bonds may occur. Prospective purchasers of the 2020A Bonds should consult their own tax advisors regarding the impact of any change in law on the 2020A Bonds.

Bond Counsel has not undertaken to advise in the future whether any events after the date of issuance and delivery of the 2020A Bonds may affect the tax status of interest on the 2020A Bonds. Bond Counsel expresses no opinion as to any federal, state or local tax law consequences with respect to the 2020A Bonds, or the interest thereon, if any action is taken with respect to the 2020A Bonds or the proceeds thereof upon the advice or approval of other counsel.

LITIGATION

There is no litigation or action of any nature now pending against the City or, to the knowledge of its respective officers, threatened, seeking to restrain or enjoin the issuance, sale, execution or delivery of the 2020A Bonds or in any way contesting or affecting the validity of the 2020A Bonds or any proceedings of the City taken with respect to the issuance or sale thereof, or the pledge or application of any moneys or security provided for the payment of the 2020A Bonds or the use of proceeds thereof. There is no litigation pending, or to the knowledge of the City, threatened, questioning the existence of the City or the title of the officers of the City to their respective offices. There is no litigation pending, or to the knowledge of the City, threatened, which materially questions or affects the financial condition of the Water System.

AUDITED FINANCIAL STATEMENTS

The audited financial statements of the City's Water and Power Enterprise Funds, as of June 30, 2019 and for the year then ended, are included in Appendix B to this Official Statement. A complete copy of the City's Comprehensive Annual Financial Report may be obtained from the City. There has been no material adverse change in the finances of the Water System since June 30, 2019. The 2020A Bonds are revenue obligations of the City payable only from the Pledged Revenues of the Water System and certain other funds as provided in the Fiscal Agent Agreement. The financial statements of the City's Water and Power Enterprise Funds for the Fiscal Year ended June 30, 2019 have been audited by Lance, Soll & Lunghard, LLP, independent accountants (the "Auditor") as stated in their report appearing in Appendix B. The Auditor has not updated its report or taken any action intended or likely to elicit information concerning the accuracy, completeness or fairness of the statements made in this Official Statement, and no opinion is expressed by Lance, Soll & Lunghard, LLP with respect to any event or transaction subsequent to their report dated December 18, 2019. The City has not requested, nor has the Auditor given, the Auditor's consent to the inclusion in Appendix B of its report on such financial statements.

FORWARD-LOOKING STATEMENTS

The statements contained in this Official Statement and in the Appendices hereto, and in any other information provided by PWP or the City, that are not purely historical, are forward-looking statements, including statements regarding PWP or the City's expectations, hopes, intentions or strategies regarding the future. Prospective investors should not place undue reliance on forward-looking statements. All forward-looking statements included in this Official Statement are based on information available to PWP and the City on the date hereof, and PWP and the City assume no obligation to update any such forward-looking statements. It is important to note that PWP's actual results could differ materially from those in such forward-looking statements.

The forward-looking statements herein are necessarily based on various assumptions and estimates and are inherently subject to various risks and uncertainties, including risks and uncertainties relating to the possible invalidity of the underlying assumptions and estimates and possible changes or developments in social, economic, business, industry, market, legal and regulatory circumstances and conditions and actions taken or omitted to be taken by third parties, including customers, suppliers and competitors, and legislative, judicial and other governmental authorities and officials. Assumptions related to the foregoing involve judgments with respect to, among other things, future economic, competitive and market conditions and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond the control of PWP and the City. Any of such assumptions could be inaccurate and, therefore, there can be no assurance that the forward-looking statements included in this Official Statement would prove to be accurate

MUNICIPAL ADVISOR

The City has retained Public Resources Advisory Group, Los Angeles, California, as municipal advisor (the "Municipal Advisor") in connection with the issuance of the 2020A Bonds. The Municipal Advisor has not been engaged, nor has it undertaken, to audit, authenticate or otherwise verify the information set forth in this Official Statement, or any other related information available to the City, with respect to accuracy and completeness of disclosure of such information. The Municipal Advisor has reviewed this Official Statement, but makes no guaranty, warranty or other representation respecting accuracy and completeness of the information contained in this Official Statement. Certain fees of the Municipal Advisor are contingent on the issuance and delivery of the 2020A Bonds.

PURCHASE AND REOFFERING

_____ (the "Initial Purchaser") purchased the 2020A Bonds from the City at a competitive sale at an aggregate purchase price of \$ _____ (representing the aggregate principal amount of the 2020A Bonds, plus/less original issue premium/discount of \$ _____, and less an Initial Purchaser's discount of \$ _____). The public offering prices may be changed from time to time by the Initial Purchaser. The Initial Purchaser may offer and sell 2020A Bonds to certain dealers and others at prices lower than the offering prices shown on the inside cover page hereof.

CERTAIN LEGAL MATTERS

The issuance of the 2020A Bonds is subject to the approving opinion of Nixon Peabody LLP, Los Angeles, California, Bond Counsel. A complete copy of the proposed form of Bond Counsel opinion is contained in Appendix F. Bond Counsel will receive compensation from the City contingent upon the sale and delivery of the 2020A Bonds. Certain legal matters will be passed upon for the City by Michele Beal Bagneris, City Attorney of the City, and by Nixon Peabody LLP, Los Angeles, California, Disclosure Counsel.

CONTINUING DISCLOSURE

Pursuant to a Continuing Disclosure Agreement to be entered into with Digital Assurance Certification, L.L.C. ("DAC") simultaneously with the issuance of the 2020A Bonds (the "Continuing Disclosure Agreement"), under which the City has designated DAC as Disclosure Dissemination Agent (the "Disclosure Dissemination Agent"), the City has covenanted for the benefit of the holders and beneficial owners of the 2020A Bonds to provide certain financial information and operating data relating to the City and the Water System by not later than 210 days following the end of the City's Fiscal Year (which Fiscal Year presently ends on June 30) (the "Annual Report"), commencing with the report for Fiscal Year 2019-20, and to provide notices of the occurrence of certain enumerated events. The Annual

Report and the notices of specified events will be filed by the City with the Municipal Securities Rulemaking Board (“MSRB”) through the MSRB’s Electronic Municipal Market Access (EMMA) System. The specific nature of the information to be contained in the Annual Report and the notice of specified events is set forth in APPENDIX E – “FORM OF CONTINUING DISCLOSURE AGREEMENT” herein. These covenants have been made in order to assist the Initial Purchaser in complying with S.E.C. Rule 15c2-12(b)(5) (the “Rule”).

In the last five years, the City has failed to comply with certain of its prior continuing disclosure agreements as follows: (1) due to the implementation of a new enterprise resource planning system, the City was 59 days late in filing its unaudited Water and Power Annual Report for fiscal year 2014-15, and did not file its unaudited Comprehensive Annual Financial Report but rather filed its audited Comprehensive Annual Financial Report and its audited Water and Power Annual Report when they became available on February 29, 2016; (2) for fiscal years ended June 30, 2015 and 2017, the City filed certain annual reports that were missing certain information required under some of its prior continuing disclosure obligations; and (3) the City did not timely file a notice of a rating upgrade in connection with one of its electric revenue fund obligations.

The City will reserve the right to amend the Continuing Disclosure Agreement, and to obtain the waiver of non-compliance with any provision of the Continuing Disclosure Agreement, if such amendment or waiver is supported by a written opinion of counsel expert in federal securities laws selected by the City to the effect that such amendment or waiver would not materially impair the interest of the holders of the 2020A Bond and would not, in and of itself, cause the Continuing Disclosure Agreement to violate the Rule if such amendment or waiver had been effective at the time of the primary offering of the 2020A Bonds, after taking into account any applicable amendments to or official interpretations of the Rule.

The Disclosure Dissemination Agent has only the duties specified in the Continuing Disclosure Agreement. The Disclosure Dissemination Agent’s obligation to deliver the information at the times and with the contents described in the Continuing Disclosure Agreement is limited to the extent the City has provided that information to the Disclosure Dissemination Agent as required by the Continuing Disclosure Agreement. The Disclosure Dissemination Agent has no duty with respect to the content of any disclosures or notice made pursuant to the terms of the Continuing Disclosure Agreement or duty or obligation to review or verify any information in the Annual Report, Audited Financial Statements, notice of Notice Event or Voluntary Report (all as defined in the Continuing Disclosure Agreement), or any other information, disclosure or notices provided to it by the City, and the Disclosure Dissemination Agent shall not be deemed to be acting in any fiduciary capacity for the City, the holders of the 2020A Bonds or any other party. The Disclosure Dissemination Agent has no responsibility for any failure to report to the Disclosure Dissemination Agent a Notice Event or a duty to determine the materiality thereof, as to determine or liability for failing to determine whether the City has complied with the Continuing Disclosure Agreement, and the Disclosure Dissemination Agent may conclusively rely upon certification of the City at all times.

The City has adopted policies and procedures to assist the City in complying with disclosure undertakings.

EXECUTION AND DELIVERY

The execution and delivery of this Official Statement have been duly authorized by the City.

CITY OF PASADENA, CALIFORNIA

By: _____
Director of Finance

APPENDIX A

THE CITY OF PASADENA

General

The City of Pasadena, California (the "City") was incorporated in 1886 and became a freeholder charter city in 1901. The City adopted its city manager form of government by amendments to the City Charter in 1921. The City Council is responsible for the administration of the City.

The City covers nearly 23 square miles and is located in Los Angeles County in the northwestern portion of the San Gabriel Valley. The City is bounded on the west by the cities of Los Angeles, La Cañada and Glendale, on the south by South Pasadena and San Marino, on the east by Arcadia and Sierra Madre, and on the north by the unincorporated community of Altadena and the San Gabriel Mountains.

In addition to general governmental services such as fire and safety, the City provides its approximately 140,000 residents with power, water and refuse services. The Southern California Gas Company supplies natural gas, and the County of Los Angeles provides sewage services.

The City consistently receives international recognition for the Rose Parade and Rose Bowl events and has achieved significant success in blending urban amenities with suburban neighborhoods. Engineering, finance and health care comprise the primary industry sectors. In addition, the academic and research pursuits of the California Institute of Technology, the Jet Propulsion Laboratory and the Art Center College of Design bring a unique combination of resources to the City. The City's downtown continues to serve as the corporate and entertainment center for the San Gabriel Valley's 1.8 million residents.

City Council

All powers of the City are vested in the City Council which is empowered to carry out the provisions of the City Charter and perform all duties and obligations of the City as imposed by State law. The City has an eight-member City Council comprised of members elected in seven City Council districts and a citywide elected mayor. Each Council Member and the Mayor are elected for four-year staggered terms. The Council Members elect the Vice-Mayor from their membership, who traditionally serves two consecutive one-year terms. The names, occupations and term expirations of the current members of the City Council are as follows:

<u>Name</u>	<u>Occupation</u>	<u>Term Expiration</u>
Terry Tornek, Mayor	Real Estate Investor	December 2020
Tyrone A.L. Hampton (District 1)	Business Owner	December 2020
Margaret McAustin (District 2)	Asset Manager - Real Estate	December 2020
John J. Kennedy (District 3)	Executive Consultant	December 2022
Gene Masuda, Vice Mayor (District 4)	Business Owner	December 2020
Victor Gordo (District 5)	Attorney	December 2022
Steve Madison (District 6)	Attorney	December 2020
Andy Wilson (District 7)	Business Owner	December 2022

City Staff

Steve Mermell, City Manager, was appointed Pasadena City Manager in July 2016, after having served as the City's Interim City Manager for the previous five months, and as Assistant City Manager since 2009. Mr. Mermell has spent his entire professional government service career at Pasadena and is

well-acquainted with all aspects and operations of the City, www.cityofpasadena.net, by working in a variety of positions since joining the organization in 1989 as an analyst for the Water and Power Department. In addition to the top management positions, he has held numerous key positions, including, among others, Acting Finance Director, 2008-2009; Deputy Finance Director, 2006-2007; Budget Administrator, 2001-2006, and Purchasing Administrator, 1995-2001. Mr. Mermell also fulfilled temporary assignments as the director for both the Planning and Public Health departments.

As Pasadena's City Manager, Mr. Mermell is responsible for implementing the policies and ordinances enacted by the Pasadena City Council; and ensuring that the City's Charter and Municipal Code are properly utilized by the City's 17 departments and 2,000-plus employees. He is responsible for development of the City's annual operating and capital improvement program budgets, which is approximately \$871 million for Fiscal Year 2019-2020 that began July 1, 2019, and also includes funding for the City's three Operating Companies—the Rose Bowl (Stadium) Operating Company; the Pasadena (Convention) Center Operating Company and the Pasadena Community Access Corporation, which oversees the public, education and government (PEG) cable channels for Pasadena.

During his time at Pasadena, Mr. Mermell has helped ensure stability for several city departments and has guided the City's economic development strategies during the recent Great Recession, including moving forward with a successor plan for redevelopment agency issues. He had a lead role in transforming the City Public Health Department's clinical programs from City to non-profit health providers; lead a task force to successfully address funding issues associated with the City's closed Fire and Police Retirement System and its \$150 million unfunded liability; developed working agreements to strengthen ties between the City and the Pasadena Unified School District to better use City and PUSD resources to benefit Pasadena children; and negotiated a new long-term lease for the historic Pasadena Playhouse, California's official State Theater, in wake of the theater organization's bankruptcy.

As City Manager, Mr. Mermell also now leads the City's Executive Leadership Team, comprised of 13 Department Directors, the City Attorney, City Clerk, Assistant City Managers and Public Information Officer; and is the City's chief executive liaison for the Tournament of Roses Association; the Chamber of Commerce and the numerous business improvement and management districts throughout town. Mr. Mermell has a master's degree in Public Administration and a bachelor's degree in Political Science, both from the California State University, Northridge.

Matthew E. Hawkesworth, Director of Finance, joined the City in October 2015. His responsibilities include management of the financial affairs of the City and the Successor Agency to the Pasadena Community Development Commission, which include: preparation of the annual operating budget; preparation of the Comprehensive Annual Financial Report (CAFR); purchasing; collections; payroll; investments; debt management and financing of major City capital improvements. Prior to his current position, he served as Assistant City Manager for the City of Rosemead for eight years overseeing Finance, Human Resources, Public Works, Technology and Risk Management; Finance Director/Treasurer for the City of Claremont for three years; and a variety of positions in the Finance Department for the City of El Monte over nine years. Mr. Hawkesworth received his Bachelor of Arts degree in Social Science (economics and political science) from the University of La Verne (California) in 1995. He has completed numerous advanced courses in finance and accounting through the Government Finance Officers Association and is a graduate of the Claremont Leadership Academy, sponsored by the Claremont McKenna College Kravis Leadership Institute. During his career, Mr. Hawkesworth has been an active participant of the Government Finance Officers Association and California Society of Municipal Finance Officers, serving as a budget and CAFR reviewer for the annual awards program; served on the League of California Cities Revenue and Taxation Committee and Other Post-Employment Benefits (OPEB)

Taskforce. Mr. Hawkesworth also has a humanistic side, demonstrated by his founding of a non-profit organization in 2011 dedicated to providing refurbished bicycles and new helmets to low-income and at-risk youth.

Michele Beal Bagneris, City Attorney, was named the Pasadena City Attorney in May 1997. At that time, she was a shareholder in the law firm of Richards, Watson & Gershon, where she specialized in public law since joining the firm in 1983. Initially, while serving as City Attorney, she continued to practice law as a member of the law firm, advising public clients in a wide range of areas, including land use, general advisory matters, litigation, labor and employment, code enforcement and nuisance abatement matters. She also served as the City Attorney for the City of Monrovia from 1992 through September 1999, when she became the in-house City Attorney for the City of Pasadena. She currently serves in that position and is also the City Prosecutor. As the City Attorney/City Prosecutor, she is responsible for managing all legal matters for the City, including supervision of in-house lawyers and any outside counsel engaged to advise the City. Ms. Bagneris received her bachelor's degree in International Relations from Stanford University in 1980 and her Juris Doctorate Degree in 1983 from Boalt Hall School of Law, University of California, Berkeley. She is active in professional and community organizations including serving as President of the Los Angeles County Prosecutor's Association; past President of the League of California Cities City Attorney's Department; past President of the City Attorney's Association of Los Angeles County; and member of other legal and community organizations. She is admitted to practice law in the State of California, United States District Court and the U.S. Court of Appeals, Ninth Circuit.

Population

The following table presents a ten-year history of the population of the City since 2009.

**TABLE A-1
POPULATION
For Years 2009 through 2019**

Year (as of January 1)	Population
2009	150,185
2010	136,769
2011	138,768
2012	139,222
2013	140,102
2014	140,879
2015	141,510
2016	141,023
2017	143,333
2018	144,388
2019	146,312

Source: State of California, Department of Finance.

Total enrollment within the Pasadena Unified School District is shown below for the last ten fiscal years.

**TABLE A-2
PASADENA UNIFIED SCHOOL DISTRICT
TOTAL ENROLLMENT⁽¹⁾
Fiscal Years 2008-09 through 2018-19**

Fiscal Year Ended June 30	Total Enrollment
2009	20,526
2010	20,084
2011	19,803
2012	19,805
2013	19,540
2014	19,102
2015	18,586
2016	18,492
2017	18,410
2018	18,164
2019	17,748

Source: California Department of Education

Employment

Although no annual calendar year information is regularly compiled on employment and unemployment in the City alone, fiscal year unemployment rates can be found in [Table 18] of the City's financial statements.

The following table shows employment, unemployment and labor force information for Los Angeles County for calendar years 2013 through 2019 (as of July 2019).

**TABLE A-3
LOS ANGELES COUNTY
EMPLOYMENT, UNEMPLOYMENT AND LABOR FORCE
AVERAGES FOR CALENDAR YEARS 2013 THROUGH 2019⁽¹⁾
(IN THOUSANDS)**

	2013	2014	2015	2016	2017	2018	2019 ⁽¹⁾
County Employment	4,471	4,659	4,707	4,777	4,884	4,930	4,864
County Unemployment	490	376	284	213	240	236	257
County Civilian Labor Force	4,960	5,035	4,992	4,990	5,124	5,166	5,122
County Unemployment Rate	9.9%	7.5%	5.7%	4.3%	4.7%	4.6%	5.0%
State Unemployment Rate	8.9%	7.0%	6.2%	5.7%	4.8%	4.1%	4.1%

Source: State of California Employment Development Department. Current Labor Force and Industry Employment. Los Angeles-Long Beach Metropolitan Statistical Area

(1) As of July 2019

Major Employers

Industry in the City is diversified. Some of the leading industries include higher education, research and development, health care, financial services and communications. The major employers within the City as of June 2019 are listed below.

**TABLE A-4
MAJOR EMPLOYERS
2019**

Company	Approximate Number of Employees	Business Line
California Institute of Technology-Jet Propulsion Laboratory	6,197	Aerospace Research
California Institute of Technology-Campus	3,900	Education
Huntington Memorial Hospital	3,737	Hospital
Kaiser Permanente	3,152	Health Care
Pasadena Unified School District	2,420	Education
The City of Pasadena	2,139	Government
Pasadena City College	2,619	Education
Art Center College of Design	1,177	Education
Bank of America	700	Financial
Hathaway-Sycamores	673	Social Services
Western Asset	573	Financial
Cit/One West Bank	554	Financial
East West Bank	552	Financial
The Langham Huntington Hotel (Ritz-Carlton)	541	Hotel
Parsons Corporation	504	Engineering/Construction
Open X	300	Software
Green Dot	350	Financial
Rusnak Pasadena	355	Automotive Retail
Pacific Clinics Administration	254	Healthcare
Bluebeam	250	Software
Tetra Tech	250	Engineering
ATT (SBC in 2007)	200	Telecommunication
Alexandria RE	200	Financial
Carnegie Institute of Science/GMTO	200	Research
ACCO Engineer	200	Engineering
ADP	180	Financial

Source: City of Pasadena, Economic Development Division

Housing

The following table presents a ten-year history of total housing units within the City, for fiscal years 2009 through 2018.

**TABLE A-5
HOUSING UNITS⁽¹⁾
For Fiscal Years 2009 through 2019**

Fiscal Year Ended January 1	Housing Units
2009	58,800
2010	59,331
2011	60,178
2012	60,263
2013	60,314
2014	60,369
2015	60,361
2016	60,703
2017	61,766
2018	62,170
2019	62,653

⁽¹⁾ As of fiscal year end. Includes single family dwellings and multifamily units, including rental units and condominiums

Source: State of California, Department of Finance; Years 2009-2010- E-8 Historical Population and Housing Estimates for Cities, Counties, and the State; Years 2011-2015- E-5 Population and Housing Estimates for Cities, Counties and the State, Year 2016-2019.

Building Permit Activity

The City's General Plan targets development in the City, providing for growth in employment and housing. Since 1992 (the year the General Plan was approved), there have been seven specific plan areas established and approved by the City Council for the following areas: North Lake, West Gateway, South Fair Oaks, East Pasadena, East Colorado, Fair Oaks/Orange Grove and the Central District. The Land Use and Mobility Elements of the General Plan were updated in 2004 at the same time the City's Zoning Code was updated.

The following table shows the value of building permits issued in the City for fiscal years 2010-11 through 2017-18

TABLE A-6
CITY OF PASADENA
BUILDING PERMIT VALUATION AND PERMIT ACTIVITY
for Fiscal Years 2010-11 through 2018-19
(Valuation in Millions)

	Fiscal Year Ended June 30,								
	2011	2012	2013	2014	2015	2016	2017	2018	2019
Building Permit Valuations									
Nonresidential	\$56.3	\$ 92.5	\$ 62.8	\$ 97.5	\$103.3	\$72.8	\$61.3	\$18.8	\$59.8
Residential	24.4	24.3	34.5	37.4	48.6	47.4	22.22	64.7	39.1
Residential New Construction	9.8	61.2	23.3	81.1	124.7	118.8	112.4	101.4	174.2
Total	\$90.5	\$178.1	\$120.6	\$216.1	\$276.6	\$239.1	\$195.9	184.9	273.1
Number of Permits Issued									
Non Residential	619	717	663	606	663	570	580	585	542
Residential	2,077	3,022	2,106	2,234	2,188	2,867	2,377	2,517	2,452
Residential New Construction	39	25	20	27	40	38	52	39	45
Total	2,735	3,764	2,789	2,867	2,891	3,475	3,009	3,141	3,039

Source: City of Pasadena, Planning and Permitting Department.

Taxable Sales

The following table indicates taxable transactions in the City by type of business for the twelve-month periods ending September 30, 2013 through September 30, 2018.

TABLE A-7
CITY OF PASADENA
TAXABLE TRANSACTIONS BY TYPE OF BUSINESS
(\$ in Millions)

Type of Business	Twelve Month Periods Ended September 30,					
	2013	2014	2015	2016	2017	2018
Apparel Stores	\$ 191.4	\$191.3	\$ 189.2	\$188.1	\$178.9	\$179.0
Auto Dealers & Supplies	464.8	502.2	569.6	569.8	611.1	651.4
Building Materials	127.1	139.9	149.5	154.4	162.2	170.2
Drug Stores	32.0	32.3	32.4	32.3	34.7	35.5
Eating & Drinking Places	458.3	483.9	522.3	555.1	582.8	598.3
Food Stores	120.9	123.3	125.5	129.1	118.0	124.4
Furnishing & Appliances	274.6	273.0	295.4	289.1	276.4	290.8
General Merchandise	236.3	227.2	222.4	219.1	216.2	213.1
Other Retail Stores	267.7	278.3	266.6	265.6	268.2	275.0
Packaged Liquor	29.3	29.5	30.5	30.0	32.6	38.6
Service Stations	180.4	175.1	153.5	132.8	141.7	155.4
Total Retail	2,382.8	2,456.0	2,556.9	2,565.4	2,622.8	2,731.7
Non-Store & Part time Retailers	5.3	5.5	4.8	5.4	5.3	4.5
Business, Serv & Repair Group	188.5	202.8	212.5	223.1	229.3	226.4
Manufactor & Wholesaler Group	291.3	251.0	228.1	185.2	223.3	141.5
Total Point of Sales	\$2,867.9	\$2,915.3	\$3,002.3	\$2,979.1	\$3,080.7	\$3,104.2

Source: State Board of Equalization, City of Pasadena: HDL Companies.

Community Facilities

The City has a central library and eight branch libraries, four community centers, 24 parks and 33 playgrounds. Other entertainment and cultural facilities include the Rose Bowl, the Norton Simon Museum, the Pacific Asia Museum, the Gamble House, the Wrigley Estate, California Institute of Technology, Beckman Auditorium, the Pasadena Civic Auditorium and the Pasadena Playhouse. The City has long enjoyed a reputation as a community rich in culture, traditions and quality of life. The City is also home to the Tournament of Roses, sponsors of the well-known New Year's Day Parade and Rose Bowl football game held in the City each January.

Transportation

The City is served by an extensive surface and air transportation network. Several major freeways make the City accessible to the entire Los Angeles Basin. The City is served by three commercial airports: Bob Hope Airport, located in nearby Burbank, is within 15 miles, Los Angeles International Airport is within 27 miles and Ontario International Airport is within 45 miles. Continental Trailways and Greyhound bus lines have local depots in the City. The City supplements the local Metropolitan Transit Authority and the Foothill Transit Authority bus routes with the Pasadena Area Rapid Transit Services ("ARTS") bus services to expand the covered area. The ARTS buses provide convenient and nominal-fare transportation

between many of the City’s residential neighborhoods, retail, business and entertainment centers within the City. There are currently two ARTS routes that offer service seven days per week. In addition, the City provides Dial-A-Ride bus services for the elderly and disabled which is available for a nominal usage fee.

The nearest port facilities are located in the Los Angeles and Long Beach harbors which are approximately 30 and 35 miles away, respectively. The \$1 billion Alameda Corridor East project, being undertaken by the Alameda Corridor East Construction Authority, consists of safety upgrades, traffic signal control measures, road widening and grade separation projects to improve traffic conditions along the railroad facilities connecting the Ports of Los Angeles and Long Beach with the transcontinental rail network through the San Gabriel Valley, creating a faster more efficient method of distributing trade.

In addition, the Gold Line of the Metro Line light rail system runs from Union Station in the City of Los Angeles, through the City and terminates in the City of Sierra Madre. The Gold Line began operations in 2003.

Employee Relations

City employees are represented by various unions and labor relations have been generally amicable. The City has experienced no major strikes, work stoppages or other incidents. Currently, most City employees are represented by unions. Set forth below is a table indicating the various unions representing employees within the City. The number of employees represented by these unions as of August 21, 2019, and the dates on which the current labor agreements expire (there are no provisions for the reopening of wage or benefit levels prior to expiration) are set forth in the following table.

**TABLE A-8
CITY OF PASADENA
EMPLOYEE UNION REPRESENTATION**

Name of Union	Number of Employees Represented As of August 21, 2019	Expiration of Contract
American Federation of State, County and Municipal Employees	265	June 30, 2019 ⁽¹⁾
International Brotherhood of Electrical Workers	104	June 30, 2019 ⁽¹⁾
International Union of Operating Engineers	18	June 30, 2020
Service Employee International Union	25	June 30, 2021
Laborers International Union of North America	326	June 30, 2022
Pasadena Fire Fighters Association	145	June 30, 2020
Pasadena Police Officers Association	204	June 30, 2021
Pasadena Fire Fighters Management Association	6	June 30, 2020
Pasadena Management Association	459	June 30, 2020

Source: City of Pasadena, Human Resources Department.

(1) In negotiation

In contract negotiations between 2014-16, employees represented by the various unions and employee organizations agreed that employees will assume full or partial responsibility for their respective obligation owed by the employees to the California Public Employees’ Retirement System (“CalPERS”). Prior to these negotiations, the City had agreed with the Police Officers Association (“POA”), Fire Fighters Association (“FFA”), American Federation of State, County and Municipal Employees (“AFSCME”), and Pasadena Management Association (“PMA”) to pay (or “pick-up”) all or a portion of the employees’

required contribution to CalPERS. These employee contributions range from 6.25% to 11.75% in total compensation.

As of January 1 2019, PMA members began paying their full 8% obligation and as of July 1, 2019, began paying an additional 1.25% as a cost-share of the employer rate for a total of 9.25%. The City continues to pick up the full 8% for AFSCME membership contribution. AFSCME members offset this amount by paying 8% of the City's employer rate back to the city to have a net effect of zero. This payment arrangement with AFSCME results in an increase in the income used to calculate pension benefits to employees under the CalPERS formula. The cost-share arrangements in place with the other employee organization result in offsets to the City's CalPERS pension liabilities.

Retirement Systems

Pasadena Fire and Police Retirement System.

General.

Police and Fire personnel hired prior to July 1, 1977 were covered by the City's Fire & Police Retirement System ("FPRS"). FPRS was originally established by the City Charter in 1919. FPRS was closed on June 30, 1977 but continues to pay out benefits to retirees and their beneficiaries. FPRS covers all sworn fire and police personnel who were employed by the City prior to July 1, 1977, except those who elected to transfer to the California Public Employees' Retirement System ("CalPERS") either when FPRS closed to new members or in June 2004. FPRS is managed by a five-member retirement board. As of June 30, 2018, FPRS had an unfunded actuarial accrued liability of \$29.0 million and had a funded ratio of 79.9%. For fiscal year 2017-18, the City's annual pension cost was \$6,927,000 for FPRS. In July 2018 the FPRS approved changes to its actuarial assumptions, reducing the discount rate and rate of return to 5.75% and the inflation rate to 2.75%. The actuarial valuation report indicates a funded ratio of 79.9% as of June 30, 2018. The actuarial value of FPRS' assets was determined using techniques that smooth the effects of short-term volatility in the market value of investments over a five-year period (smoothed market value). Copies of FPRS' annual financial report may be obtained from the City's Department of Finance, 100 North Garfield Avenue, 3rd Floor, Pasadena, California 91109. This annual financial report includes the required three-year trend information. Additional information concerning the FPRS is also contained in Note 18 to the City's Audited Financial Statement attached as Appendix B to this Official Statement.

Funding History.

In 1960, the City Charter was amended to provide an unlimited cost of living adjustment ("COLA") for the FPRS members that was fully adjustable based on changes in the consumer price index. With inflation in the broader economy during the subsequent years, the FPRS saw dramatic increases in the COLA and, therefore, in its expenses. In 1977, the FPRS was modified to increase contribution rates for the City and for active FPRS members. Additionally, active FPRS members were given the option of transferring to the California Public Employees' Retirement System ("CalPERS") plan. However, few existing participants elected to join CalPERS and the modifications proved inadequate to address the continuing rise in the COLA benefit.

The City attempted to roll back the COLA benefit and successfully obtained voter approval in 1981 for a City Charter amendment that limited the COLA to 2%. However, the Pasadena Police Officers Association sued successfully, claiming that the amendments impaired the vested rights of its members. An appellate court upheld the ruling and the uncapped COLA was reinstated.

In 1987, the City sponsored and secured the passage of Senate Bill No. 481 (“SB 481”), which established a funding mechanism for the FPRS. SB 481 authorized the City to utilize payments made by the Pasadena Community Development Commission (the “Commission”) under a reimbursement agreement entered into in 1987 (the “Reimbursement Agreement”), after required deductions, for the purpose of funding the City’s liabilities to FPRS. The Commission’s payments consist of property tax increments from the City’s Downtown Project Area (hereinafter defined as the “SB 481 Receipts”). The Reimbursement Agreement was validated by SB 481, which became law in 1987. Under SB 481, the right to receive SB 481 Receipts terminated on December 31, 2014. As described below, the enforceability of the Reimbursement Agreement is being challenged by the State.

In 1999, after the FPRS-funded status dropped to approximately 30%, the City and the FPRS negotiated a Contribution Agreement (the “Prior Contribution Agreement”) whereby the City agreed to issue approximately \$100 million of pension obligation bonds (*i.e.*, the Series 1999 Bonds) and transfer the proceeds to the FPRS in order to increase the actuarial funding level to 70%. See “SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Outstanding Pension Obligation Bonds.” Further, the City agreed to make supplemental contributions to the FPRS to ensure that the funding level increased by ½% each year for 20 years, in order to reach a funding level of 80% by 2020. FPRS, in turn, assigned to the City its rights to receive the SB 481 Receipts under a prior agreement, but required such revenues to be applied to the payment of the City’s funding obligations to FPRS, including payments on the City’s pension obligation bonds.

In 2004 the City issued approximately \$40 million of additional pension obligation bonds (*i.e.*, the Series 2004 Bonds) in order to maintain the contribution levels agreed upon in the Prior Contribution Agreement. This occurred after a dispute between the City and the FPRS regarding the accounting methodology for treating the investment losses of the early 2000s. The FPRS agreed to allow the actuarial valuation to be conducted without the requirement that the actuarial value of assets remain within a 20% “corridor” around the actual market value of assets, in exchange for the City providing additional funds through the issuance of the 2004 Bonds.

In November 2011, the City and FPRS agreed to amend the Prior Contribution Agreement (such amendment herein referred to as the “Amended Contribution Agreement”) for the purpose of revising the methodology used to calculate the unfunded liability of the City and the City’s required payments to the FPRS. To fulfill its commitment under the Amended Contribution Agreement, the City issued a third series of pension bonds (*i.e.*, the Series 2012 Bonds) in the principal amount of \$47,440,000 and deposited the proceeds with FPRS. Prior to the Amended Contribution Agreement, FPRS was required to use, in its actuarial calculations, the average assumed investment return and cost of living adjustment used by counties with pension systems established under 1937 Act (“1937 Act Counties”).

Under the Amended Contribution Agreement, the City must pay to FPRS, in addition to the net proceeds of the Series 2012 Bonds, supplemental payments (“Supplemental Payments”) if FPRS falls below the required minimum funding percentage in any fiscal year, to fund the unfunded accrued actuarial liability (the “UAAL”) of FPRS. The Amended Contribution Agreement requires FPRS to be at least 75.5% funded for the fiscal year in which the City paid the net proceeds of such bonds to FPRS (the “Minimum Funding Percentage”). For each succeeding year, the Minimum Funding Percentage increases by 0.5% per year over a nine-year period, up to 80%. To protect the City against large swings in asset values from one year to the next, the annual amount of any Supplemental Payments is subject to a cap, which is the lesser of certain benefit payments paid by FPRS in the prior fiscal year, or \$3 million, plus a varying percentage of any funding deficit in the Minimum Funding Percentage over \$3 million, beginning with 20% of the remaining deficit in the base year up to 100% of any deficit remaining for the fifth and any subsequent consecutive fiscal year following the base year.

The principal change implemented by the Amended Contribution Agreement was to alter the assumed rate of investment and cost of living adjustments used to calculate the Minimum Funding Percentage and UAAL. The Amended Contribution Agreement allows FPRS to use rates of investment and cost of living increases recommended by FPRS's actuary and approved by FPRS after consultation with the City and the City's consultants. When the Amended Contribution Agreement was executed in November 2012, the average investment rate used by 1937 Act Counties was approximately 8%; following execution, the actuarial rate as recommended by the system's actuary was reduced to 6.5%. The actuarial valuation for the year ending June 30, 2017 assumed, among other assumption, a discount rate of 6.5% and an inflation rate of 3%³

The City has structured \$121,490,000 principal amount of the Series 1999 Bonds, the Series 2004 Bonds and the Series 2012 Bonds to mature, or to be subject to mandatory tender, on May 15, 2015, with the expectation that the SB 481 Receipt would be sufficient to pay approximately \$40 million of the maturing principal amount or purchase price of such bonds, as applicable. However, as the SB 481 Litigation was not resolved by May 2015, the City refinanced all of its pension obligation bonds in 2015.

As of June 30, 2017, the FPRS was funded at 82.5%, satisfying the 78.5% minimum requirement as calculated in accordance with the procedures of the Amended Contribution Agreement. The funding history for the FPRS is shown in Table A-14 herein.

In July 2018, the Fire and Police Retirement Board approved changes to its actuarial assumptions, including reducing the discount rate and rate of return to 5.75% and the inflation rate to 2.75% as well as assumptions relating to morality resulting from a new experiential and mortality study. As a result, a actuarial report indicates a reduction of the funding ratio to 79.9% as of June 30, 2018, satisfying the minimum funding requirement of 79%. The actuary has also projected the need for supplemental General Fund contributions beginning in Fiscal year 2020 (estimated at \$3.1 million). This report was presented to the FPRS Board. Further, the additional projected General Fund contributions have not been included in the City's Five-year financial plan projections included in this Official Statement.

SB 481 Litigation.

Through 2011, SB 481 Receipts received by the City under the Reimbursement Agreement were sufficient to cover the debt service on the City's pension obligation bonds, to provide funds for the City to make required supplemental payments to the FPRS under the prior contribution agreement, as amended and superseded (as described above) and to generate a reserve fund to be used for future obligations of the FPRS.

Following passage of the State legislation ABx1 26 in 2011, which required the dissolution of California redevelopment agencies ("CRA's"), including the Commission and the disposition and winding-up of the operations of CRS's, the State challenged the enforceability of the Reimbursement Agreement. In January 2017, following years of litigation, a California Appellate Court determined that the Reimbursement Agreement was not an "enforceable obligation" under ABx1 26 and required that SB 481 Receipts, which has been temporarily escrowed pending the outcome of the litigation must be returned to the local taxing entities. As a result, in fiscal year 2017-18, the \$39.7 million in escrow was distributed to the local taxing entities, with the City receiving approximately \$8.4 million.

Investment Status.

As of June 30, 2019, FPRS' investment assets were allocated as follows:

TABLE A-9
CITY OF PASADENA
FIRE AND POLICE RETIREMENT SYSTEM
PORTFOLIO INFORMATION
as of June 30, 2019 (unaudited)

<u>Description of Assets</u>	<u>Market Value</u>	<u>Percentage of Portfolio</u>
Cash and cash equivalents	\$ 5,039,695	4.38%
Interest	123,972	0.11
Government and agencies	18,336,335	15.93
Fixed income mutual funds	15,435,016	13.41
Domestic corporate obligations	19,304,683	16.77
International corporate obligations	600,707	0.52
Real estate	11,434,054	9.93
Real estate investment (REITS)	109,432	0.10
Domestic corporate stocks	22,380,573	19.44
International corporate stocks	22,374,765	19.43
TOTAL	<u>\$115,139,234</u>	<u>100.00%</u>

Source: City of Pasadena, Department of Finance.

FPRS has a number of investment objectives. The primary goals are to provide participants with scheduled retirement benefits and meet or exceed the rate of inflation in its investments, as measured against the consumer price index. In addition, its objective is to achieve a higher rate of return over a three to five year period with less than average volatility, with enhanced return over a longer period, such as five years, being more important than the preservation of capital during a one-year period of time.

Under its investment guidelines, FPRS must maintain sufficient liquidity to meet FPRS' cash needs. It may invest in equity securities, U.S. government bonds, corporate bonds and dollar denominated foreign bonds, certain kinds of mortgage backed securities, money market funds, and American Depository Receipts of foreign securities. Fixed income securities must be rated Baa/BBB or better by nationally recognized rating agencies. The assets of FPRS may not be invested in options, commodities or futures, nor may securities be sold short or purchased on margin.

The City is responsible for paying benefits to FPRS, as described above. A variety of factors will affect the extent of the City's liability to FPRS, including actual investment performance of FPRS' assets, actual changes in the consumer price index, FPRS' actual mortality and benefit payment experience, all as compared with the assumptions, and changes in actuarial assumptions and methods, including the assumed rate of investment return. Further continued market volatility and the possibility of a "double dip" recession may require substantial additional contributions to FPRS over time.

California Public Employees' Retirement System.

General.

Almost all permanent City employees, except police and fire CalPERS personnel employed prior to July 1, 1977, are members of CalPERS for purposes of pension benefits. CalPERS is an agent multiple employer public employee retirement system which acts as a common investment and administrative agent for participating public employers within the State of California. The plan provides retirement and disability benefits, annual cost-of-living adjustments and death benefits to plan members and their beneficiaries. CalPERS issues a separate publicly available financial report that includes financial statements and required supplemental information of participating public entities within the State of California. The most recent annual report issued by CalPERS to the City was in July 2018 (the "July 2018 CalPERS Report"). The July 2019 CalPERS Report includes information based on the June 30, 2018 actuarial valuation of assets included therein (the "2018 Actuarial Valuation"). Copies of the CalPERS' annual financial report may be obtained from the CalPERS Executive Office, Lincoln Plaza Complex, 400 Q Street, Sacramento, CA 95811 or at www.calPERS.ca.gov. The July 2019 CalPERS Report to the City can also be found on the City's website at <http://cityofpasadena.net/Finance/PERS-Actuarial-Reports>. Additional information about the CalPERS Plans can also be found in Note 18 to the City's Audited Financial Statements attached as Appendix B to this Official Statement.

CalPERS is a contributory plan deriving funds from employer and employee contributions as well as earnings from investments. Participants are required to contribute a percentage of their annual covered salary. As of June 30, 2016, the contribution rates were 8% for miscellaneous employees and 9% for safety employees. In some cases, the City makes the contributions required of City employees on their behalf and for their account, but is wholly or partially reimbursed by employees. Different employee bargaining groups have different reimbursement rates ranging from the 8% to 12%. The City is also required to contribute at an actuarially determined rate. Benefit provisions and all other requirements are established by state statute or collective bargaining agreements with employee bargaining groups. See "Employee Relations" above.

Recent Actuarial Changes and Related Developments.

In recent years, the CalPERS Board of Administration (the "CalPERS Board") has taken several steps, as described below, intended to reduce the amount of the unfunded accrued actuarial liability of its managed plans. Many of the assumptions and policies implemented by the CalPERS Board have increased and are likely to continue to increase both the required contributions and the unfunded liabilities of its member employers, including the City.

On March 14, 2012, the CalPERS Board voted to lower the CalPERS' rate of expected price inflation and its investment rate of return (net of administrative expenses) (the "CalPERS Discount Rate") from 7.75% to 7.5%. On February 18, 2014, the CalPERS Board voted to keep the CalPERS Discount Rate unchanged at 7.5%. On November 17, 2015, the CalPERS Board approved a new funding risk mitigation policy to incrementally lower the CalPERS Discount Rate by establishing a mechanism whereby such rate is reduced by a minimum of 0.05% to a maximum of 0.25% in years when investment returns outperform the existing CalPERS Discount Rate by at least four percentage points. On December 21, 2016, the CalPERS Board voted to lower the CalPERS Discount Rate to 7.0% over a three year phase-in period in accordance with the following schedule: 7.375% in fiscal year 2017-18, 7.25% in fiscal year 2018-19 and 7.00% in fiscal year 2019-20. The new discount rate went into effect July 1, 2018 for the City and other member employers. Lowering the CalPERS Discount Rate means member employers like the City will see increases in their normal costs and unfunded actuarial liabilities. Active members hired after January 1, 2013, under the PEPPRA (defined below) will also see their contribution rates rise.

On January 1, 2013, the Public Employees' Pension Reform Act of 2013 ("PEPRA") took effect. The impact of the PEPRA is described below.

In April 2013, CalPERS Board approved revised actuarial policies that are aimed at returning the CalPERS system to fully-funded status within 30 years. These new policies include a rate-smoothing method with a 30-year fixed amortization period for gains and losses (rather than the current 30-year rolling amortization method). CalPERS delayed the implementation of the new policy until fiscal year 2015-16, and as described below further revised these policies in subsequent year.

Also, on February 20, 2014, the CalPERS Board approved new demographic assumptions reflecting (i) expected longer life spans of public agency employees and related increases in costs for the CalPERS system and (ii) trends of higher rates of retirement for certain public agency employee classes, including police officers and firefighters. The increase in liability due to the new assumptions will be amortized over 20 years with increases phased in over five years, beginning with the contribution requirement for fiscal year 2016-17.

The CalPERS Board is required to undertake an experience study every four years under its Actuarial Assumptions Policy and State law. As a result of the most recent experience study, on December 20, 2017, the CalPERS Board approved new actuarial assumptions, including (i) lowering the inflation rate to 2.625% for the June 30, 2017 actuarial valuation and to 2.50% for the June 30, 2018 actuarial valuation, (ii) lowering the payroll growth rate to 2.875% for the June 30, 2017 actuarial valuation and 2.75% for the June 30, 2018 actuarial valuation, and (iii) certain changes to demographic assumptions relating to the salary scale for most constituent groups, and modifications to the morality, retirement, and disability retirement rates.

On February 14, 2018, the CalPERS Board approved a new actuarial amortization policy with an effective date for actuarial valuations beginning on or after June 30, 2019, which includes (i) shortening the period over which actuarial gains and losses are amortized from 30 years to 20 years, (ii) requiring that amortization payments for all unfunded accrued liability bases established after the effective date be computed to remain a level dollar amount throughout the amortization period, (iii) removing the 5-year ramp-up and ramp-down on unfunded accrued liability bases attributable to assumptions changes and noninvestment gains/losses established on or after the effective date and (iv) removing the 5-year ramp-down on investment gains/losses established after the effective date. While CalPERS expects that reducing the amortization period for certain sources of unfunded liability will increase future average funding ratios, provide faster recovery of funded status following market downturns, decrease expected cumulative contributions, and mitigate concerns over intergenerational equity, such changes may result in increases in future employer contribution rates.

There can be no assurances that CalPERS will not make additional changes to its actuarial assumptions and policies in the future impacting upon the City's required funding contributions and its unfunded accrued liability.

California Public Employees' Pension Reform Act (PEPRA).

On September 12, 2012, the Governor signed Assembly Bills 340 and 197, which enacted the California Public Employees' Pension Reform Act or PEPRA. Among other things, PEPRA created a new benefit tier for public employees hired on or after January 1, 2013, who are defined as "new members." PEPRA plans adopted by the City were 2% at 62 for the general member benefit formula and 2.7% at 57 benefit formula for safety and probation members. PEPRA requires all new members to have an initial contribution rate of at least 50% of the normal cost rate or the current contribution rate of similarly situated employees, whichever is greater. The normal contribution rate, as calculated by the CalPERS' actuary

covers the cost of a current year of service. PEPRA prohibits employers from paying any of PEPRA members' contribution on the employees' behalf, with certain exceptions. PEPRA also limits the types of compensation that can be used and caps the total amount of compensation that can be used to calculate a pension. The City believes that the provisions of PEPRA will help control its pension benefit liabilities in the future.

GASB Statement Nos. 67 and 68.

On June 25, 2012, GASB approved Statements Nos. 67 and 68 ("Statements") with respect to pension accounting and financial reporting standards for state and local governments and pension plans. The new Statements, No. 67 and No. 68, replace GASB Statement No. 27 and most of Statements No. 25 and No. 50. The changes impact the accounting treatment of pension plans in which state and local governments participate. Major changes include: (1) the inclusion of unfunded pension liabilities on the government's balance sheet (previously, such unfunded liabilities were typically included as notes to the government's financial statements); (2) more components of full pension costs being shown as expenses regardless of actual contribution levels; (3) lower actuarial discount rates being required to be used for underfunded plans in certain cases for purposes of the financial statements; (4) closed amortization periods for unfunded liabilities being required to be used for certain purposes of the financial statements; and (5) the difference between expected and actual investment returns being recognized over a closed five-year smoothing period. The reporting requirements for government employers, including the City, took effect for the fiscal year beginning July 1, 2014, and affect reporting by the City for both the CalPERS plans and FPRS.

Annual Payments and Contribution Rates

Under GASB 27, an employer reports an annual pension cost ("APC") equal to the annual required contribution ("ARC") plus an adjustment for the cumulative difference between the APC and the employer's actual plan contributions for the year. The cumulative difference is called the net pension obligation. In order to calculate the dollar value of the ARC for inclusion in the financial statements, the applicable contribution rate is multiplied by the payroll of the covered employees that were paid during the relevant period.

Effective for financial statements beginning after July 1, 2014, GASB 68 replaces GASB 27. Hence, the annual report issued by CalPERS in 2015 will reflect GASB 68. GASB 68 will require additional reporting that CalPERS is intending to provide upon request by its members.

Set forth below is a history of the City's contributions to the CalPERS, including projected payments from fiscal year 2007-08 through fiscal year 2024-25. The City contributed 100% of its APC in each completed year shown. The City estimates that approximately 65% of the payments to these plans is made from the City's General Fund. The City's contributions shown below do not include the employee pick up in prior years. See "Employee Relations."

Also set forth below are the historic and projected contribution rates to the CalPERS plans. The projected contribution rates for fiscal year 2020-21 through 2025-25 are provided by CalPERS in its July 2019 report. The CalPERS projections assumed that all actuarial assumptions (including among other assumptions, a 7.00% return in fiscal year 2020-21 and a 7% return for the remaining year projection period) will be realized and that no future changes to assumptions, contributions, benefits or funding will occur during the projection period. The July 2019 CalPERS Report states that due to the adopted changes in the CalPERS Discount Rate effective for the next valuation in combination with the five year phase-in ramp (as discussed above), the increase in the required contributions are expected to continue for six years from

fiscal year 2020-21 through fiscal year 2025-26. A complete explanation of the CalPERS assumptions can be found in the 2018 Actuarial Valuation.

In July 2019, CalPERS reported a preliminary 7.00% net return on investments for the fiscal year ended June 30, 2019. In the two prior fiscal years ended June 30, 2018 and 2017, the reported return was 8.6% and 11.2%, respectively. CalPERS weighted average investment returns for the past five, ten and twenty years ending June 30, 2018 are 7.9%, 5.7% and 6.0%, respectively. As discussed above, the CalPERS Board voted in December 2016 to phase in an assumed 7% rate of return by fiscal year 2019-20. CalPERS has publicly indicated that it expects actual investment returns in the next ten years to be less than the 7% assumed rate of return. Actual investment returns lower than the actuarially assumed level (in and of itself) will result in decreased funding status and increased required contribution by the City.

**TABLE A-10
ANNUAL PAYMENTS TO RETIREMENT PLANS BY CITY
(\$ in Thousands)**

Fiscal Year Ended June 30	CalPERS— Misc Employees Total Contribution	CalPERS- General Fund Contribution Misc Employees ⁽²⁾	CalPERS— Safety Employees Total Contribution	CalPERS- General Fund Contribution Safety Employees
2006	\$ 7,402	\$2,887	\$7,402	\$6,728
2007	10,056	3,295	10,056	8,498
2008	12,228	3,435	9,283	9,097
2009	12,580	3,768	9,916	9,718
2010	12,566	3,765	10,459	10,250
2011	12,518	4,381	10,346	10,139
2012	16,744	5,860	11,370	11,143
2013	17,439	5,929	10,993	10,773
2014	17,909	6,089	11,176	10,952
2015	18,552	6,308	10,533	10,322
2016	20,751	7,055	11,641	11,409
2017	25,894	8,804	15,724	14,973
2018	27,112	13,556	16,542	16,211
2019	29,841	14,921	18,841	18,464
2020 ⁽¹⁾	36,040	18,020	21,856	21,418
2021 ⁽¹⁾	39,175	19,587	23,865	23,388
2022 ⁽¹⁾	42,270	21,135	26,000	25,480
2023 ⁽¹⁾	45,039	22,519	27,479	26,929
2024 ⁽¹⁾	46,817	23,408	28,791	28,215
2025 ⁽¹⁾	48,840	24,420	25,617	25,105
2026 ⁽¹⁾	46,631	23,316	28,028	27,468

(1) Projected annual payment to retirement plan based on projected contribution rates on CalPERS plus unfunded Accrual Liability in July 2019 CalPERS Report.

(2) Historic Payment are net of City "pick-up". See "Employee Relations" herein.

Source: City of Pasadena, Department of Finance.

**TABLE A-11
ANNUAL CONTRIBUTION RATES
TO CALPERS RETIREMENT PLANS BY CITY**

Fiscal Year Ended June 30	CalPERS Misc. Employees	CalPERS Misc. UAL\$	CalPERS Safety Employees	CalPers Safety UAL \$
2011	11.4%	-	23.6%	-
2012	15.5	-	26.6	-
2013	16.2	-	25.6	-
2014	17.4	-	27.2	-
2015	19.2	-	29.3	-
2016	21.1	-	31.8	-
2017	22.8	-	35.1	-
2018 ⁽¹⁾	7.9 ⁽³⁾	\$18,895,540 ⁽⁴⁾	17.1 ⁽⁵⁾	\$9,230,863 ⁽⁶⁾
2019 ⁽²⁾	8.3 ⁽³⁾	21,920,840 ⁽⁴⁾	17.9 ⁽⁵⁾	10,953,259 ⁽⁶⁾
2020 ⁽²⁾	9.2 ⁽³⁾	25,084,564 ⁽⁴⁾	18.9 ⁽⁵⁾	12,900,362 ⁽⁶⁾
2021 ⁽²⁾	10.017 ⁽³⁾	27,226,688 ⁽⁴⁾	19.9 ⁽⁵⁾	14,399,802 ⁽⁶⁾
2022 ⁽²⁾	10.0 ⁽³⁾	29,994,000 ⁽⁴⁾	19.9 ⁽⁵⁾	16,257,000 ⁽⁶⁾
2023 ⁽²⁾	10.0 ⁽³⁾	32,425,000 ⁽⁴⁾	19.9 ⁽⁵⁾	17,468,000 ⁽⁶⁾
2024 ⁽²⁾	10.0 ⁽³⁾	35,856,000 ⁽⁴⁾	19.9 ⁽³⁾	18,505,000 ⁽⁶⁾
2025 ⁽²⁾	10.0 ⁽³⁾	35,523,000 ⁽⁴⁾	19.9 ⁽³⁾	15,048,000 ⁽⁶⁾
2026 ⁽²⁾	10.0 ⁽³⁾	32,948,000 ⁽⁴⁾	19.9 ⁽³⁾	17,169,000 ⁽⁶⁾

(1) Projected annual payment to retirement plan based on projected contribution rates on CalPERS actuarial report dated July 2017. Does not include City "Pick Up". See "Employee Relations" herein.

(2) Projected annual payment to retirement plan based on projected contribution rates on CalPERS plus Unfunded Accrued Liability (UAL) actuarial report dated July 2019 Report

(3) Projected Normal Contribution Rate for Miscellaneous

(4) Amount of the Amortized Unfunded Actuarial Liability for Miscellaneous

(5) Project Normal Contribution Rate for Safety

(6) Amount of the Amortized Unfunded Actuarial Liability for Safety

Source: City of Pasadena, Department of Finance.

Funding Status of Plans. Based on the 2019 Actuarial Valuation (which is the most recent actuarial valuation available), CalPERS reported an unfunded liability, as of June 30, 2018, of \$323.9 million for the City's miscellaneous employees as compared to an underfunding of \$294.4 million the previous year and an unfunded liability of \$187.2 million for safety employees as compared to \$165.7 million the previous year. Based upon this report, the City reported that its CalPERS obligation had a funded ratio of 71.8% based upon the market value of plan assets with respect to the City's miscellaneous employees and a funded ratio of 71.6% based upon the market value of plan assets for safety employees. As noted above, CalPERS has changed its discount rate assumptions. The funding status as of June 30, 2018 was calculated using a CalPERS Discount Rate of 7.00%. Also, as noted above CalPERS has changed its amortization and smoothing policies in 2013. Beginning with the June 30, 2015 Actuarial Valuations (that set fiscal year 2015-16 CalPERS contribution rates), CalPERS no longer uses an actuarial value of assets and instead employs an amortization and rate smoothing policy that will account for all gains and losses over a fixed 30-year period with the increases and decreases in the rate phased over a 5-year period. Also as noted above, CalPERS has changed smoothing policies (shortening the period from 30 to 20-years) for valuations on and after June 30, 2019.

The City provides pension benefits for employees not covered by CalPERS or FPRS through the Public Agency Retirement System (“PARS”), a defined contribution plan. In a defined contribution plan, benefits depend solely on amounts contributed to the plan plus investment earnings. Employees are eligible to participate from the date of employment. As of December 31, 2012, the covered employees are required to contribute the full 7.5% of their earnings. Prior to such date, the City contributed an amount equal to 4.0% of the employee’s earnings and the covered employee contributed 3.5%. The City’s payroll for employees covered by PARS for fiscal year 2017-18 was \$4,413,374. The covered employees made the total required 7.5% contributions of \$331,003.

The tables below summarize the funded status of the City’s retirement plans as of the most recent actuarial valuation dates. Additional information regarding the City’s employee retirement plans, annual pension costs, the funding status thereof and significant accounting policies related thereto is set forth in Note 18 to the City’s Comprehensive Annual Financial Report for the year ended June 30, 2018, and in the CalPERS reports to the City, which can be accessed at <https://www.cityofpasadena.net/finance/financial-statements/#comprehensive-annual-financial-report>.

**TABLE A-12
CITY OF PASADENA
RETIREMENT PLAN TREND INFORMATION
(\$ in thousands)**

CALPERS - MISCELLANEOUS EMPLOYEES

Valuation Date (June 30)	Actuarial Accrued Liability (AAL) – Entry Age	Actuarial Asset Value*	(Overfunded) Unfunded AAL	Funded Ratio*		Annual Covered Payroll	(Overfunded) Unfunded AAL as a % of Covered Payroll
				AVA	Market Value		
2007	\$585,908	\$539,717	\$46,191	92.1%	106.8%	\$102,135	45.2%
2008	638,095	579,068	59,027	90.7	92.6	111,186	53.1
2009	732,713	607,710	125,003	82.9	60.6	116,952	106.9
2010	773,303	635,455	137,847	82.2	64.4	115,289	119.6
2011	819,327	666,290	153,037	81.3	72.3	110,571	138.4
2012	852,217	695,108	157,109	81.6	68.0	105,201	149.3
2013	882,572	641,333	241,239	72.7*	72.7*	104,378	231.1
2014	956,142	737,836	218,306	77.2	77.2	103,617	210.7
2015	982,774	734,946	247,827	74.8	74.8	104,325	237.5
2016	1,026,336	719,443	306,892	70.1	70.1	107,587	285.2
2017	1,074,696	780,285	294,410	72.6	72.6	108,837	270.5
2018	1,149,746	825,785	323,960	71.8	71.8	110,137	294.1

(*) Beginning with the June 30, 2013 actuarial valuation, the actuarial value of assets equals the market value of assets pursuant to CalPERS’ Direct Rate Smoothing Policy.

Source: CalPERS actuarial valuations on the reporting date for each fiscal period

**TABLE A-13
CALPERS - SAFETY EMPLOYEES**

Valuation Date (June 30)	Actuarial Accrued Liability (AAL) – Entry Age	Actuarial Asset Value	(Overfunded) Unfunded AAL	Funded Ratio		Annual Covered Payroll	(Overfunded) Unfunded AAL as a % of Covered Payroll
				AVA	Market Value		
2007	\$285,822	\$238,041	\$47,781	83.3%	95.4%	40,138	119.0%
2008	317,140	262,817	54,323	82.9	83.5	42,996	126.3
2009	352,610	283,880	68,730	80.5	58.7	45,516	151.0
2010	373,670	307,056	66,614	82.2	64.7	45,643	145.9
2011	403,626	331,603	72,023	82.2	73.6	44,058	163.5
2012	429,718	355,015	74,703	82.6	69.5	42,612	175.3
2013	457,271	338,082	119,189	73.9*	73.9*	41,383	288.0
2014	501,785	395,729	106,057	78.9	78.9	41,014	258.6
2015	530,414	400,797	129,617	75.6	75.6	40,318	321.5
2016	561,743	398,312	163,432	70.9	70.9	41,688	392.0
2017	604,467	438,683	165,784	72.6	72.6	43,504	381.1
2018	658,183	470,973	187,210	71.6	71.6	43,923	426.2

(*) Beginning with the June 30, 2013 actuarial valuation, the actuarial value of assets equals the market value of assets pursuant to CalPERS' Direct Rate Smoothing Policy.

Source: CalPERS actuarial valuations on the reporting date for each fiscal period

**TABLE A-14
FPRS**

Valuation Date (June 30)	Actuarial Accrued Liability (AAL) – Entry Age	Actuarial Asset Value	(Overfunded) Unfunded AAL	Funded Ratio	Annual Covered Payroll	(Overfunded) Unfunded AAL as a % of Covered Payroll
2008	178,748	131,321	47,427	73.5	179	26.5
2009	177,803	119,551	58,252	67.2	-	N/A
2010	166,096	109,740	56,356	66.1	-	N/A
2011	179,284	105,811	73,473	59.0	-	N/A
2012	174,249	136,272	39,977	78.2	-	N/A
2013	168,781	127,985	40,796	75.8	-	N/A
2014	159,516	130,183	29,333	81.6	-	N/A
2015	162,154	129,984	32,170	80.2	-	N/A
2016	155,824	125,479	30,345	80.5	-	N/A
2017	148,454	122,433	26,021	82.5	-	N/A
2018	147,816	118,034	29,782	79.9 ⁽¹⁾	-	N/A

Source: FPRS actuarial valuations through June 30, 2018

⁽¹⁾ For the June 30, 2018 valuation, the funding discount rate has been reduced to 5.25% from 6% the prior year.

Post-Retirement Medical Benefits (OPEB)

The City of Pasadena provides a subsidy to retirees of the City who are members of CalPERS or FPRS. Two different levels of subsidy toward the purchase of medical insurance from CalPERS under the Public Employees' Medical and Hospital Care Act (PEMHCA) are offered. Benefit provisions are established and amended through negotiations between the City and the respective unions.

The City's current contribution requirements have been established at the individual retiree levels of \$136.00 or \$88.40 per month depending on bargaining unit membership and policy enacted by CalPERS pursuant to State law. These minimum requirements are established by CalPERS and adjusted annually. The prior contribution requirements were \$133.00 or \$79.80 per month depending on the bargaining unit or the unrepresented group of which the employee was a member. The City has historically funded these post-retirement health care benefits on a "pay-as-you-go" basis. For fiscal year 2018-19, the City's benefit payments totaled \$2,612,362.

In fiscal year 2018-19, the City's OPEB liability is calculated based on an amount actuarially determined in accordance with the parameters of GASB Statement 75. Based upon the actuarial valuation report as of June 30, 2019, the actuary has projected a required "Actuarially Determined Contribution" for fiscal year 2019-20 of \$7,046,285 and for fiscal year 2020-2021 of \$7,119,221. These amounts represent a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and to amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed twenty years. Under GASB 75, unfunded or partially funded OPEB plans must use a discount rate assumption tied to the index for 20-year, tax-exempt general obligation bonds.

The actuarial valuation uses, among other assumptions, a 3.15% discount rate and an inflation rate of 2.75%. The City's liability will also be affected by health care costs. The actuarial valuation assumes that medical costs will rise in 2020 by 6.5% (for the PPO plan) and 6.0% (for the HMO plan), declining to 5.0% for both plans after 2022. For fiscal year 2019-20, the actuary has projected that the City will make a benefit payments of \$2,815,139, representing 40.0% of the Actuarially Determined Contribution for fiscal year 2019-20. From July 1, 2018 through June 30, 2019, the City's total OPEB liability grew from \$72,261,944 to \$79,126,733.

Other than, the pension benefits from the applicable retirement system and as described in this section, the City does not provide medical or other post-retirement benefits to its employees

Insurance

The City funds a self-insured and self-administered program for workers' compensation claims exposures and general liability claims. Liability claims, losses and expenses paid averaged about \$1,474,387 per year for the past 10 years and, when existing "reserves" are added, averaged around \$12,824,957 in liability exposure per year over the past 10 years. The City anticipates these expenses annually and includes funding for them in its operating budget. The City carries excess liability coverage, with limits of \$25 million, with a self-insured retention of \$5 million dollars per occurrence. The amount of self-insured liability claim expenditures and remaining reserves with respect to claims made in each of fiscal years 2009-10 through 2018-19 are reflected in the following table:

TABLE A-15
CITY OF PASADENA
LIABILITY CLAIM EXPENDITURES AND REMAINING RESERVES
Fiscal Years 2009-10 through 2018-19

Fiscal Year⁽¹⁾ Ended June 30,	Loss Paid	Expense Paid	Total Paid	Remaining Reserves for Unpaid Claims⁽¹⁾
2010	639,876	24,824	664,700	2,565,000
2011	897,721	10,283	908,004	2,111,700
2012	2,003,021	366,983	2,370,004	5,295,580
2013	166,779	-	166,779	968,501
2014	824,398	511,595	1,335,993	4,060,646
2015	431,798	917,307	1,349,106	74,026,667 ⁽²⁾
2016	3,141,673	633,406	3,775,079	9,140,077
2017	1,962,736	1,550,119	3,512,855	8,396,569
2018	264,791	345,766	610,557	5,364,733
2019	49,918	877	50,795	1,576,223

⁽¹⁾ Reserves reflect fiscal year in which claim occurred. Payments reflect money spent on all claims during a fiscal year.

⁽²⁾ Amount includes a \$51.3 million reserve for a lawsuit involving a 25% extra-territorial water surcharge, which has since been settled.

Source: City of Pasadena, Department of Finance.

The City maintains commercial property insurance on all City-owned buildings of an insurable nature (unless lease agreements require the occupant to carry such insurance) with current basic limits of \$250,000,000, subject to various application sub-limits and deductible. Policy coverage excludes earth movement, including earthquake, nuclear hazard and military action. The City does not currently maintain separate earthquake coverage under another insurance policy. The City maintains boiler & machinery, and equipment breakdown insurance, on specified types of equipment/property, with limits of \$100,000,000 for each policy, subject to variety of applicable sub-limits and deductibles. In addition, the City purchases Property Terrorism/NCBR, Chemical, Biological and Radiological Terrorism & Sabotage coverage, along with pollution, storage tank, and cyber liability coverage, with limits of \$1,000,000 for the pollution, storage tank and cyber liability policies, subject to variety of applicable sub-limits and deductibles.

No assurances can be given that the City's security and operational control measures will ensure against any and all cybersecurity threats and attacks. A cybersecurity incident or breach could damage the City's Information Technology systems and cause disruption to City services and operations. The cost of any such disruption or remedying damage caused by future attacks could be substantial. The City will continue to assess cyber threats and protect its data and systems.

Stormwater Improvements

The Clean Water Act (“CWA”) regulates the discharges of pollutants into the waters of the United States by establishing quality standards. The CWA requires states to identify “impaired” water bodies and to develop a Total Maximum Daily Load (“TMDL”) for each pollutant contributing to impairment. The CWA makes it unlawful to discharge any pollutant into waters protected by the CWA, unless a permit is first obtained. The U.S. Environmental Protection Agency’s (“EPA’s”) National Pollutant Discharge Elimination System (“NPDES”) permit program controls these discharges. With respect to the City, the EPA has delegated permitting and direct enforcement under its NPDES program to the Los Angeles Regional Water Quality Control Board (“LARWQCB”).

On November 8, 2012, the LARWQCB adopted the National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit (“MS4 permit”) Order No. R4-2012-0175, which became effective on December 28, 2012. The MS4 permit establishes the TMDL of pollutants that can be discharged into water while still meeting water quality standards and objectives. The MS4 covers 84 of the 88 public agencies in the Los Angeles County area, including the City, the Los Angeles County Flood Control District and the County, that are responsible for compliance with the MS4 permit. The City is currently subject to four TMDLs in the Los Angeles River and Los Angeles/Long Beach Harbors. The City is likely to receive more TMDLs in the coming years. The TMDL compliance deadlines spread out through 2037.

The MS4 permit allows for the option to work together to develop and implement an Enhanced Watershed Management Program (“EWMP”) to address permit and TMDL requirements. The MS4 permit has safe harbor provisions, whereby the City was deemed in compliance with the TMDLs during the development of the EWMP, provided that all requirements and deadlines related to the EWMP development were met. As the EWMP crosses multiple local jurisdictions, the City collaborated with other participating agencies on the development of the EWMP. In June 2015, the EWMP was submitted in accordance with the required schedule, and it was approved by the LARWQCB on April 20, 2016.

Non-compliance with the MS4 permit and applicable TMDLs could result in enforcement action by the LARWQCB, civil penalties and fines, and potentially third-party lawsuits. For example, the LARWQCB may levy administrative fines of up to \$10,000 per pollutant per day of violation. In addition, the State can impose mandatory minimum penalties of \$3,000 per pollutant per day of violation and seek civil liabilities of up to \$25,000 per pollutant per day. Additionally, private citizens or EPA can pursue penalties if the LARWQCB does not enforce on a violation. The City is responsible for its own fines, penalties and costs incurred as a result of non-compliance.

The City is currently in substantial compliance with the MS4 permit, but requires significant funding for capital, and operation and maintenance costs to implement the EWMPs to meet the TMDL compliance deadlines contained in the MS4 permit. The City has partially funded the monitoring and reporting programs required by the MS4 permit. The City’s share of the costs of the approved EWMP projects required to meet the TMDLs over the next 20 years is preliminarily estimated by the LARWQCB to be approximately \$220 million. Estimating project costs over such a long time period is inherently difficult, and no assurance can be provided by the City that LARWQCB’s approved projections are accurate. Without other revenue sources, these costs would be obligations of the City’s General Fund and could have a material adverse impact on the General Fund.

The Fiscal Year 2018-19 Adopted Budget contains \$750,000 for stormwater expenditures. However, at the time of budget preparation some implementation costs were unavailable. Therefore, if a

mid-year adjustment to funding were needed, it would be addressed through the City's clean-up report process.

APPENDIX B

**AUDITED FINANCIAL STATEMENTS OF PASADENA WATER AND POWER
ENTERPRISE FUNDS FOR THE FISCAL YEAR ENDED JUNE 30, 2019**

APPENDIX C

BOOK-ENTRY ONLY SYSTEM

The description that follows of the procedures and recordkeeping with respect to beneficial ownership interests in the 2020A Bonds, payment of principal of and interest on the 2020A Bonds to Participants or beneficial owners, confirmation and transfer of beneficial ownership interests in the 2020A Bonds, and other 2020A Bonds-related transactions by and between DTC, Participants and beneficial owners, is based on information furnished by DTC which the City believes to be reliable, but the City takes no responsibility for the completeness or accuracy thereof.

The Depository Trust Company (“DTC”), New York, NY, will act as securities depository for the 2020A Bonds (the “2020A Bonds”). The 2020A Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC’s partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered security certificate will be issued for each maturity of the 2020A Bonds, each in the aggregate principal amount of such maturity, and will be deposited with DTC.

DTC, the world’s largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the New York Uniform Commercial Code, and a “clearing agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC’s participants (“Direct Participants”) deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants’ accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (“DTCC”). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (“Indirect Participants”). DTC has a Standard & Poor’s rating of AA+. The DTC Rules applicable to DTC’s Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com. The information on such website is not incorporated herein by reference.

Purchases of the 2020A Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the 2020A Bonds on DTC’s records. The ownership interest of each actual purchaser of each 2020A Bond (hereinafter “Beneficial Owner”) is in turn to be recorded on the Direct and Indirect Participants’ records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the 2020A Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the 2020A Bonds, except in the event that use of the book-entry system for the 2020A Bonds is discontinued.

To facilitate subsequent transfers, all 2020A Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of 2020A Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the 2020A Bonds. DTC's records reflect only the identity of the Direct Participants to whose accounts such 2020A Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of the 2020A Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the 2020A Bonds, such as redemptions, defaults and proposed amendments to the Indenture. For example, Beneficial Owners of 2020A Bonds may wish to ascertain that the nominee holding the 2020A Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the Bond Registrar and request that copies of notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the 2020A Bonds are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor such other DTC nominee) will consent or vote with respect to 2020A Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the City as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts 2020A Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal, redemption price and interest payments on the 2020A Bonds will be made to Cede & Co. or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the City or the Trustee, on each payment date in accordance with their respective holdings shown on DTC's records. Payments by Direct and Indirect Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Trustee or the City, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal, redemption price and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the City or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to Beneficial Owners is the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the 2020A Bonds at any time by giving reasonable notice to the City or the Trustee. Under such circumstances, in the event that a successor depository is not obtained, the 2020A Bond certificates are required to be printed and delivered.

The City may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, the 2020A Bond certificates will be printed and delivered.

APPENDIX D
SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE

APPENDIX E
FORM OF CONTINUING DISCLOSURE AGREEMENT

APPENDIX F

PROPOSED FORM OF OPINION OF BOND COUNSEL

[Closing Date]

City of Pasadena
Pasadena, California

\$ _____
City of Pasadena, California
Water Revenue/Refunding Bonds, 2020A Series

Ladies and Gentlemen:

We have acted as bond counsel to the City of Pasadena, California (the "City") in connection with the issuance of the City's Water Revenue/Refunding Bonds, 2020A Series in the aggregate principal amount of \$ _____ (the "2020A Bonds"). The 2020A Bonds are being issued pursuant to the Charter of the City, as amended (the "Charter"), including Article XIV thereof, Ordinance No. _____ (the "Ordinance"), adopted by the City Council of the City (the "Council") on _____, 2020, and a Water Revenue Bond Indenture, dated as of August 1, 2003, by and between the City and The Bank of New York Mellon Trust Company, N.A. (successor to BNY Western Trust Company), as trustee (the "Trustee"), as amended and supplemented, including as amended and supplemented by a Sixth Supplement to Water Revenue Bond Indenture, dated as of December 1, 2020, each by and between the City and the Trustee (collectively, the "Indenture").

In our capacity as bond counsel, we have reviewed the Charter, the Ordinance, resolutions adopted by the City Council, the Indenture, certifications of the City, the Trustee and others, opinions of counsel to the City and the Trustee, and such other documents, opinions and instruments as we deemed necessary to render the opinions set forth herein. Capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Indenture.

We have assumed the genuineness of all documents and signatures presented to us. We have not undertaken to verify independently, and have assumed, the accuracy of the factual matters represented, warranted or certified in such documents. Furthermore, we have assumed compliance with all covenants and agreements contained in the Indenture, including (without limitation) covenants and agreements compliance with which is necessary to assure that future actions, omissions or events will not cause interest on the 2020A Bonds to be included in gross income for federal income tax purposes.

Based on and subject to the foregoing, and in reliance thereon, as of the date hereof, we are of the following opinions:

1. The City is authorized and empowered by law, including the Charter, to adopt the Ordinance, to execute and deliver the Indenture, to issue the 2020A Bonds, to use the proceeds from the sale thereof for the purposes stated in the Ordinance and the Indenture and to pledge the Pledged Revenues of the Water System to the payment of the 2020A Bonds.
2. The Indenture has been, pursuant to law, including the Charter and the Ordinance, duly authorized, executed and delivered by, and constitutes the valid and binding obligation of, the

City. The Indenture creates a valid pledge, to secure the payment of the principal of and interest on the 2020A Bonds, of the Pledged Revenues as and to the extent set forth in the Indenture and subject to the provisions of the Indenture permitting the application thereof for the purposes and on the terms and conditions set forth therein.

3. The 2020A Bonds are valid and binding special obligations of the City and are payable exclusively from the Water Fund of the City's Water and Power Department and certain other funds as provided in the Indenture, and are secured by a pledge of and lien upon Pledged Revenues of the Water System on a parity with other obligations of the Water System payable from Pledged Revenues of the Water System and issued from time to time pursuant to the Indenture. The general fund of the City is not liable for the payment of any 2020A Bonds, any premium thereon upon redemption prior to maturity or their interest, nor is the credit or taxing power of the City pledged for the payment of any 2020A Bonds, any premium thereon upon redemption prior to maturity or their interest. The Owner of any 2020A Bond may not compel the exercise of the taxing power by the City or the forfeiture of any of its property. The principal of and interest on any 2020A Bonds and any premiums upon the redemption of any thereof prior to maturity are not a debt of the City nor a legal or equitable pledge, charge, lien or encumbrance upon any of its property or upon any of its income, receipts or revenues, except the Pledged Revenues and other funds, security or assets which are pledged to the payment of the 2020A Bonds, interest thereon and any premiums upon redemption.

4. The Internal Revenue Code of 1986 (the "Code") sets forth certain requirements which must be met subsequent to the issuance and delivery of the 2020A Bonds for interest thereon to be and remain excluded from gross income for federal income tax purposes. Noncompliance with such requirements could cause the interest on the 2020A Bonds to be included in gross income for federal income tax purposes retroactive to the date of issue of the 2020A Bonds. Pursuant to the Indenture and the Tax Certificate, the City has covenanted to comply with the applicable requirements of the Code in order to maintain the exclusion of the interest on the 2020A Bonds from gross income for federal income tax purposes pursuant to Section 103 of the Code. In addition, the City has made certain representations and certifications in the Indenture and the Tax Certificate. We have not independently verified the accuracy of those certifications and representations.

Under existing law, assuming compliance with the tax covenants described herein and the accuracy of the aforementioned representations and certifications, interest on the Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Code. We are also of the opinion that such interest is not treated as a preference item in calculating the alternative minimum tax imposed under the Code.

Interest on the Bonds is exempt from personal income taxes of the State of California under present state law.

The opinions expressed in paragraphs 2 and 3 above are qualified to the extent that the enforceability of the 2020A Bonds and the Indenture may be limited by applicable bankruptcy, insolvency, debt adjustment, reorganization, moratorium or similar laws or equitable principles relating to or limiting creditors' rights generally or as to the availability of any particular remedy. The enforceability of the 2020A Bonds and the Indenture is subject to the effect of general principles of equity, including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing, to the possible unavailability of specific performance or injunctive relief, regardless of whether considered in a proceeding in equity or at law, and to the limitations on legal remedies against governmental entities in California (including, but not limited to, rights of indemnification).

In rendering the opinions set forth in paragraph 4 above, we are relying upon representations and covenants of the City in the Tax Certificate concerning the investment and use of 2020A Bond proceeds, the rebate to the federal government of certain earnings thereon, and the use of the property and facilities financed with the proceeds of the 2020A Bonds. In addition, we have assumed that all such representations are true and correct and that the City will comply with such covenants. We express no opinion with respect to the exclusion of the interest on the 2020A Bonds from gross income under Section 103(a) of the Code in the event that any of such representations are untrue or the City fails to comply with such covenants, unless such failure to comply is based on our advice or opinion.

Except as stated in paragraph 4 above, we express no opinion as to any other federal, state or local tax consequences of the ownership or disposition of the 2020A Bonds. Furthermore, we express no opinion as to any federal, state or local tax law consequences with respect to the 2020A Bonds, or the interest thereon, if any action is taken with respect to the 2020A Bonds or the proceeds thereof upon the advice or approval of other counsel.

Our opinions are based on existing law, which is subject to change. Such opinions are further based on our knowledge of facts as of the date hereof. We assume no duty to update or supplement our opinions to reflect any facts or circumstances that may hereafter come to our attention or to reflect any changes in any law that may hereafter occur or become effective. Moreover, our opinions are not a guarantee of result and are not binding on the Internal Revenue Service; rather, such opinions represent our legal judgment based upon our review of existing law that we deem relevant to such opinions and in reliance upon the representations and covenants referenced above.

No opinion is expressed herein on the accuracy, completeness or sufficiency of the Official Statement or other offering material relating to the 2020A Bonds.

Very truly yours,