homeownership

rental housing

business lending

colorado housing and finance authority

annual financial report

December 31, 2020 and 2019

chfa®

financing the places where people live and work

COLORADO HOUSING AND FINANCE AUTHORITY – Annual Financial Report

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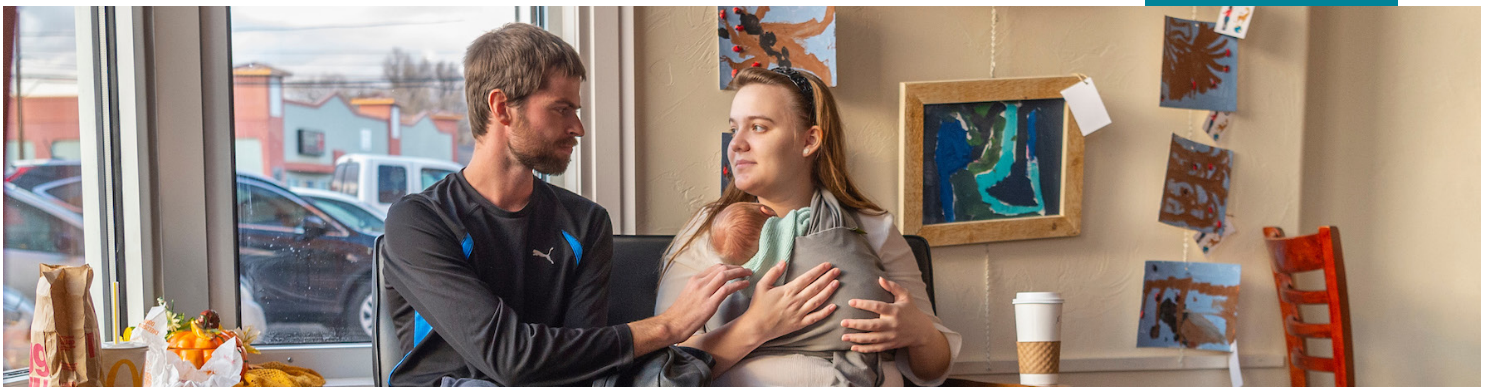


executive letter (unaudited)

chfa®

Message from Cris White,
Executive Director and CEO
March 25, 2021

Colorado Housing and Finance Authority (CHFA or the Authority) was proud to support Colorado homeowners, renters, businesses, nonprofits, and communities during a year that was marked with unprecedented challenges due to the COVID-19 pandemic. In 2020, CHFA invested a record $3.6 billion into its mission. This investment supported affordable housing and community development throughout Colorado, as detailed below, and is estimated to spur $5.1 billion in economic activity statewide.

In 2020, CHFA supported:

- 10,483 Colorado households with first mortgage loans for home purchases or mortgage refinance loans;
- the new construction or preservation of 68 affordable rental housing developments, supporting a total of 5,900 rental housing units;
- 693 businesses and nonprofits with CHFA's capital access and business lending, which combined supported 5,046 jobs; and
- 238 community organizations and nonprofits.

Homeownership
In 2020, CHFA invested $3 billion in first mortgage home loans and served 10,534 households who enrolled in a CHFA-sponsored homebuyer education class. CHFA also invested $108.6 million in down payment assistance, which is an essential resource that makes homeownership possible for thousands of Coloradans. Home prices continued to rise last year in Colorado, with the median single family home price reaching $415,000, representing a 46% increase compared to five years ago. The median loan amount of CHFA homeownership customers was $294,057.

Rental housing
Supporting the new construction and preservation of affordable rental housing remained a significant need in 2020 as existing high demand was exacerbated by the pandemic. In 2020, CHFA invested $326.5 million in multifamily loans and awarded $50.5 million in federal and state Housing Credits to support this need. These resources and investments will make access to a new or existing affordable apartment possible for 5,900 Colorado households. In 2020, Colorado's median rent was $1,403, and nearly half of all Colorado renters are housing cost-burdened, paying more than 30% of their household income towards rent.

Business finance
Businesses and nonprofits were among the most impacted by the pandemic, facing multi-faceted challenges. Overall, CHFA invested $119 million to support 693 businesses and nonprofits and 5,046 jobs through its business finance programs. CHFA also administered the Energize Colorado Gap Fund, which was created to help underserved businesses affected by the pandemic and by the end of 2020, awarded $26 million in grants to support more than 2,000 businesses. In addition, the Colorado Growth and Revitalization Fund, administered by CHFA, was awarded $50 million in New Markets Tax Credits to support businesses, community facilities, and mixed-used developments in low-income communities.

Community Connections
At a time when many local communities and nonprofits grappled with the combination of increased demand for services and fewer resources due to COVID-19, CHFA was there to help address these needs and organizations' other strategic goals. In 2020, CHFA invested $3.1 million to support communities and nonprofits statewide. This investment included $671,800 donated to 57 organizations providing pandemic-response services including rental and mortgage assistance, food access, and support for people experiencing homelessness.

Community Impact Fund
CHFA's Community Impact Fund (CIF) is key to supporting CHFA's mission and innovative housing solutions in particular. At the end of 2020, the total available CIF cash balance was $79.3 million. During 2020, $81.5 million was contributed to the fund and $75.5 million was deployed to homeownership and rental housing programs, which supported approximately 9,300 single family borrowers and the development or preservation of more than 400 affordable rental housing units. In addition, $25.6 million in CIF funding has been committed to support future projects. CIF is a flexible source of funding, allowing CHFA to help meet unique needs throughout Colorado.

Though 2020 brought forth new and lasting challenges, it illuminated the importance of CHFA's mission and the organization's ability to adapt under even the most unforeseen circumstances. CHFA will continue to focus on those it serves and meeting its mission for a stronger Colorado.

Cris A. White

Cris A. White
Executive Director and CEO

independent auditor's report

chfa®

Independent Auditor's Report

Board of Directors
Colorado Housing and Finance Authority

Report on the Financial Statements
We have audited the accompanying financial statements of Colorado Housing and Finance Authority as of and for the years ended December 31, 2020 and 2019, and the related notes to the financial statements, which collectively comprise Colorado Housing and Finance Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements
Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility
Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion
In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Colorado Housing and Finance Authority as of December 31, 2020 and 2019, and the respective changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the schedules of selected pension and other postemployment benefit (OPEB) information, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary and Other Information

Our audits were conducted for the purpose of forming opinions on the financial statements that collectively comprise Colorado Housing and Finance Authority's basic financial statements. The executive letter and the supplementary information, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements, or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The executive letter has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

***Other Reporting Required by* Government Auditing Standards**

In accordance with *Government Auditing Standards,* we have also issued our report dated March 25, 2021, on our consideration of Colorado Housing and Finance Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of Colorado Housing and Finance Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Colorado Housing and Finance Authority's internal control over financial reporting and compliance.

RSM US LLP

Denver, Colorado
March 25, 2021

management’s discussion
and analysis (unaudited)

This section of the Colorado Housing and Finance Authority's (the Authority) annual financial report presents management's discussion and analysis of the financial position and results of operations as of and for the years ended December 31, 2020 and 2019. This information is being presented to provide additional information regarding the activities of the Authority and to meet the disclosure requirements of Government Accounting Standards Board (GASB).

The Authority is a body corporate and political subdivision of the State of Colorado (the State), that finances affordable housing, business and economic growth opportunities for residents and businesses of Colorado. Its dual mission is to increase the availability of affordable, decent and accessible housing for lower- and moderate-income Coloradans, and to strengthen the state's economy by providing financial assistance to businesses.

Established by the Colorado General Assembly in 1973, the Authority raises funds through the public and private sale of bonds and notes, which are not obligations of the State. As a self-sustaining organization, the Authority's operating revenues come from loan and investment income, program administration fees, loan servicing fees and gains on sales of loans. The Authority receives no tax appropriations, and its net revenues are reinvested in its programs and used to support bond ratings.

The Authority participates in the Government National Mortgage Association (Ginnie Mae) Mortgage Backed Securities (MBS) Programs. Through the MBS Programs, Ginnie Mae guarantees securities that are issued by the Authority and that are backed by pools of mortgage loans. Ginnie Mae securities, which can be held or sold, carry the full faith and credit guaranty of the United States government. Holders of the securities receive a "pass-through" of the principal and interest payments on a pool of mortgage loans, less amounts required to cover servicing costs and Ginnie Mae guaranty fees. The Ginnie Mae guaranty ensures that the holder of the security issued by the Authority receives the timely payment of scheduled monthly principal and any unscheduled recoveries of principal on the underlying mortgage loans, plus interest at the rate provided for in the securities. All loans pooled under the Ginnie Mae MBS Programs are either insured by the Federal Housing Administration (FHA) or are guaranteed by the United States Department of Agriculture (USDA) Rural Development or the Veterans Administration.

The Authority also participates in the Federal National Mortgage Association (Fannie Mae) MBS and Whole Loan Commitment Programs. Fannie Mae is a Government-Sponsored Enterprise with a public mission to provide stability in, and to increase the liquidity of, the residential mortgage market for homebuyers. The Authority is a Fannie Mae Seller/Servicer, either selling whole loans to Fannie Mae for cash or swapping pooled loans for MBS issued by Fannie Mae, which securities can be held or sold.

The Authority also participates in the Federal Home Loan Mortgage Corporation (Freddie Mac) Whole Loan Commitment Program. Freddie Mac is a Government-Sponsored Enterprise with a public mission to provide liquidity, stability and affordability to the nation's housing market. The Authority is a Freddie Mac Seller/Servicer, selling whole loans to Freddie Mac for cash.

Overview of the Financial Statements

The basic financial statements consist of the Statement of Net Position, the Statement of Revenues, Expenses and Changes in Net Position, the Statement of Cash Flows and the notes thereto. The Authority follows enterprise fund accounting, whereby changes in net position are reported as soon as the underlying event giving rise to the change occurs regardless of the timing of related cash flows. The financial statements offer information about the Authority's activities and operations.

The Statement of Net Position includes all of the Authority's assets and liabilities, presented in order of liquidity, along with deferred outflows and deferred inflows. The resulting net position presented in these statements is displayed as invested in capital assets, restricted or unrestricted. Net position is restricted when its use is subject to external limits such as bond indentures, legal agreements or statutes. Net position is unrestricted when there are no external limits on its use. The unrestricted net position is, however, formally designated for specific purposes by the Authority's Board of Directors each year.

All of the Authority's current year revenues and expenses are recorded in the Statement of Revenues, Expenses and Changes in Net Position. This statement measures the activities of the Authority's operations over the past year and presents the resulting change in net position.

The final required financial statement is the Statement of Cash Flows. The primary purpose of this statement is to provide information about the Authority's cash receipts and cash payments during the reporting period. This statement reports cash receipts, cash payments and net changes in cash resulting from operating, noncapital financing, capital and related financing and investing activities. The statement provides information regarding the sources and uses of cash and the change in the cash balance during the reporting period.

The notes to basic financial statements provide additional information that is essential for a full understanding of the information provided in the financial statements.

Required and other supplementary information is presented following the notes to basic financial statements to provide selected pension and other post employment benefit (OPEB) information and other supplemental information, such as combining schedules for the Authority's programs. These programs are explained in greater detail below.

Programs

General Programs – Insured and uninsured single family and multifamily loans have been made by the Authority using funds in its General Fund designated as the Community Impact Fund (CIF). Within the CIF resides the Authority's Housing Opportunity Fund or "HOF Program." Under the HOF Program, the Authority makes fixed interest rate loans and provides interest rate subsidies to nonprofit and for profit developers in support of rental housing facilities targeted to support affordable rental housing. The Authority also makes loans to support its single family program, including down payment assistance loans, within the fund. All HOF loans must conform to standard Authority due diligence processes and underwriting criteria, unless waived in accordance with the Authority's standard process, and are secured by either first or second mortgages on real estate. Loan terms on HOF loans may range up to 40 years.

Single Family Programs – Under its Single Family Mortgage Programs, the Authority may purchase mortgage loans for single-family residential dwellings from qualified originating mortgage lenders, or may, under certain programs, provide loans directly to individual borrowers. The Authority presently acquires mortgage loans under its Non-Qualified Single Family Mortgage Program (taxable) and its Qualified Single Family Mortgage Program (tax exempt). Loans made under the qualified program are subject to certain income and purchase price limitations. The Authority permits eligible borrowers under its Non-Qualified Single Family Mortgage Program to meet certain income limits which are generally somewhat higher than the limits permitted for a Qualified Single Family Mortgage Program. There is no limit imposed by the Authority on prior home ownership or limit on the purchase price of a residence which may be acquired with the proceeds of a loan under the Non-Qualified Single Family Mortgage Program, although all such mortgage loans must meet any applicable loan limit. Proceeds of a mortgage loan under the Non-Qualified Single Family Mortgage Program can be used under the Authority's refinancing programs to refinance existing mortgage loans.

Multifamily Lending Programs – The Multifamily Lending programs provide financing to sponsors of affordable rental housing developments. Financing options include construction to permanent loans, permanent-only loans, acquisition loans, acquisition/rehabilitation loans and, in certain circumstances, refinancing of existing debt. Other financing structures may be considered, based upon the property characteristics and sub-market due diligence, as well as the demonstrated experience and financial capacity of the sponsor. The mortgages originated under the multifamily loan programs include a combination of insured and uninsured mortgages. The Authority is a Tier I lender under FHA's Section 542(c) of the Housing and Community Development Act of 1992, as amended, which provides insurance on multifamily loans and is a credit enhancement mechanism available only to qualified housing and finance agencies acting as the mortgage lender.

Business Finance Programs – The Authority originates uninsured loans as part of its direct business loan programs, including the Direct Loan Program, the Non-Profit Real Estate Loan Program, the U.S. Small Business Administration 504 Program, the Rural Loan Program, the Rural Development Loan Program and the RENEW Program. These business loans must meet certain economic development or job creation/retention objectives and are made to Colorado businesses to provide long-term, fixed rate financing for real estate and equipment. The uninsured direct business loans are generally secured by a first lien on the assets financed, are made in amounts up to 90% of the lesser of cost or appraised value of the collateral, are fully amortizing over terms of up to thirty years for real estate loans and seven years for equipment, and generally require guarantees from principals of the business having a 20% or greater ownership interest. A guaranty is also required from the operating company if different from the Borrower. Some of the Authority's small business loans may carry credit enhancement by an agency or instrumentality of the United States under an insurance program requiring payment of not less than 50% of the principal amount of such mortgage in the event of default. Direct small business loans insured to date have utilized the USDA Rural Development guarantee programs.

Financial Highlights

The following financial highlights section refers to the Authority's consolidated financial statements. The reader of this management's discussion and analysis section is encouraged to also review the Authority's combining schedules within the supplementary information section of this 2020 financial report.

Condensed Summary of Net Position
(in thousands of dollars)

As of December 31,	2020	2019	2018
Assets			
Cash	$ 299,172	$ 288,679	$ 158,853
Investments	1,811,438	1,432,554	824,935
Loans receivable, net	1,115,260	1,046,339	1,009,960
Loans receivable held for sale	231,084	224,437	214,557
Capital assets, net	12,603	12,963	13,887
Other assets	82,997	75,521	66,874
Total assets	3,552,554	3,080,493	2,289,066
Deferred outflows of resources			
Accumulated increase in fair value of hedging derivatives	116,075	82,933	54,733
Pension and OPEB contributions and investment earnings	3,278	6,123	5,196
Refundings of debt	1,174	1,018	4,088
Total deferred outflows of resources	120,527	90,074	64,017
Liabilities			
Bonds, notes payable and short-term debt	2,500,172	2,180,126	1,596,816
Derivative instruments and related borrowings	125,965	89,253	71,087
Net pension and OPEB liability - proportionate share	19,777	32,816	31,646
Other liabilities	270,899	271,505	175,523
Total liabilities	2,916,813	2,573,700	1,875,072
Deferred inflows of resources			
Accumulated decrease in fair value of hedging derivatives	2,981	3,019	5,698
Pension and OPEB investment differences	6,855	1,438	4,823
Total deferred inflows of resources	9,836	4,457	10,521
Net position			
Investment in capital assets, net of related debt	2,132	2,172	2,789
Restricted by grants	11,065	-	-
Restricted primarily by bond indentures	243,622	174,997	158,709
Unrestricted	489,613	415,241	305,992
Total net position	$ 746,432	$ 592,410	$ 467,490

Statement of Net Position

Total investments comprised 51.0% of the Authority's total assets, and represent the Authority's largest asset class. Total investments as of December 31, 2020 were $1.8 billion, an increase of $378.9 million, or 26.4%, compared to the amount outstanding as of December 31, 2019. This increase was primarily the result of the Authority retaining MBS as investments on its balance sheet, as opposed to selling these in the secondary market at a premium. These MBS were pledged as collateral for bonds issued by the Authority during the year.

In 2019, investments increased $607.6 million, or 73.7%, when compared to 2018. This increase was primarily the result of the Authority retaining MBS as investments on its balance sheet, as opposed to selling these in the secondary market at a premium. These MBS were pledged as collateral for bonds issued by the Authority during the year.

Total loans receivable, including loans held for sale, net of allowances for loan losses, comprised 37.9% of the Authority's total assets. These loan balances as of December 31, 2020 were $1.3 billion; an increase of $75.6 million, or 5.9%, compared to the amount outstanding as of December 31, 2019. During 2020, the Authority continued to sell the majority of its single family loan production through four vehicles: sales of Ginnie Mae and Fannie Mae mortgage backed securities or by direct sale to Fannie Mae or Freddie Mac. During 2020, $2.7 billion in loans were sold in the to-be-announced (TBA) market through the issuance and sale of Ginnie Mae securities, of which $442.4 million were placed into taxable and tax-exempt MBS-backed bond structures. Loans totaling $354.7 million were either pooled and swapped for Fannie Mae mortgage backed securities and sold for a premium, or sold directly to Fannie Mae. Additionally, $63.6 million in loans were sold directly to Freddie Mac.

In 2019, net loans receivable increased by $46.3 million, or 3.8%, when compared to 2018. This increase over the prior year was the result of larger Loans Held for Sale balances reported at year-end.

While it has been the Authority's practice to pool loans into mortgage backed securities and either sell them in the secondary market for a gain or retain and pledge them as collateral for bonds, the Authority continued the practice of purchasing and retaining the mortgage servicing rights (MSRs) to these loans. Additionally, the Authority continued the practice of servicing the whole loans it retains in its loan portfolio. The loans serviced by the Authority include both single family and commercial loans.

Servicing Portfolio (gross, in thousands)		**2020**		**2019**		**2018**
GNMA - securities sold	$	5,945,295	$	4,487,531	$	3,595,005
FNMA - loans and securities sold		1,315,224		1,574,806		1,285,042
FHLMC - loans sold		211,333		223,661		117,370
Balance sheet loans (single family/multifamily/business)		1,357,236		1,277,817		1,229,927
Total Servicing Portfolio	$	8,829,088	$	7,563,815	$	6,227,344

Total loan portfolio delinquencies increased during 2020 when compared to the prior year. Overall, total single family past due loans increased from 9.9% in 2019, to 17.8% in 2020. However, the Authority observed slight decreases in the multifamily loan program and the business finance portfolio during 2020.

The delinquency ratios represented below are calculated using industry best practices and are reported on the Authority's entire servicing portfolio, including loans that were sold and the mortgage servicing rights retained, as well as loans the Authority maintains as assets on its balance sheet. Investors looking for past due information on loans pledged as collateral for specific bond series of the Authority can find this information by visiting the Municipal Securities Rulemaking Board's EMMA website at https://emma.msrb.org/IssuerHomePage/State?state=CO.

Single Family Portfolio Delinquency	**2020**	**2019**	**2018**
Current	82.2%	90.1%	92.5%
30 day	4.0%	5.2%	4.5%
60 day	2.0%	1.9%	1.1%
90 day	11.2%	1.7%	1.4%
Foreclosure	0.6%	1.1%	0.5%
Total past due	17.8%	9.9%	7.5%

Multifamily Portfolio Delinquency	**2020**	**2019**	**2018**
Current	99.6%	98.0%	99.4%
30 Day	0.4%	1.0%	0.5%
60 Day	0.0%	0.0%	0.0%
90 Day	0.0%	1.0%	0.1%
Foreclosure	0.0%	0.0%	0.0%
Total past due	0.4%	2.0%	0.6%

Business Finance Portfolio Delinquency	**2020**	**2019**	**2018**
Current	97.0%	95.0%	86.7%
30 Day	3.0%	4.0%	13.3%
60 Day	0.0%	0.0%	0.0%
90 Day	0.0%	1.0%	0.0%
Foreclosure	0.0%	0.0%	0.0%
Total past due	3.0%	5.0%	13.3%

Total deferred outflows as of December 31, 2020 were $120.5 million, an increase of $30.5 million, or 33.8%, compared to the amount outstanding as of December 31, 2019. Deferred outflows for 2019 increased $26.1 million, or 40.7%, from those reported in 2018. These changes were primarily the result of changes in market interest rates.

As of December 31, 2020, bonds, notes payable and short-term debt were $2.5 billion, an increase of $320.0 million, or 14.7%, compared to the balance at December 31, 2019. This increase is a direct result of several 2020 Single Family bond issuances, the proceeds of which were used to finance mortgage loans for the single family program. The Authority's debt transactions followed best execution analysis and were part of the Authority's annual plan of finance. Debt activity detail for 2020 occurred as follows:

- On February 20, 2020, the Authority issued $127.5 million of taxable and tax-exempt Single Family Mortgage Class I 2020 Series ABC Bonds to fund the acquisition of single family loans securitized as Ginnie Mae MBS.
- On March 26, 2020, the Authority issued $55.0 million of taxable Homeownership Class I 2020 Series AA Bonds to fund the acquisition of single family loans securitized as Ginnie Mae MBS.
- On April 28, 2020, the Authority issued $45.4 million of taxable Homeownership Class I 2020 Series BB Bonds to fund the acquisition of single family loans securitized as Ginnie Mae MBS.
- On July 30, 2020, the Authority issued $111.9 million of taxable and tax-exempt Single Family Mortgage Class I 2020 Series DEF Bonds to fund the acquisition of single family loans securitized as Ginnie Mae MBS.
- On October 29, 2020, the Authority issued $129.0 million of taxable and tax-exempt Single Family Mortgage Class I 2020 Series GHI Bonds to fund the acquisition of single family loans securitized as Ginnie Mae MBS.
- On April 23, 2020, the Authority issued $39.4 million of tax-exempt Multifamily Project Class I 2020 Series A Bonds to fund the acquisition of fund a new Multifamily Project loan.
- On October 1, 2020, the Authority issued $73.1 million of taxable and tax-exempt Multifamily Project Class I 2020 Series CD Bonds to fund new Multifamily Project loans and to refund certain Multifamily Project Bonds.
- On December 1, 2020, the Authority issued $35.0 million of tax-exempt Multifamily Project Class I Series B Bonds to fund the acquisition of fund a new Multifamily Project loan.
- On December 9, 2020, the Authority issued $24.6 million of tax-exempt Multifamily Project Class I 2020 Series E Bonds to fund a new Multifamily Project loan.

Additional information on the Authority's long-term debt can be found in note 6 of this report.

During 2019, total liabilities increased $698.6 million, or 37.3%, over the prior year. Bonds, notes payable and short-term debt increased $583.3 million, or 36.5% over 2018, primarily due to the issuance of new Single Family and Multi-Family program bonds. Also in 2019, derivative instruments and related borrowings increased $18.2 million, or 25.6%, from the prior year due to a decrease in market interest rates and an increase in termination values.

The Authority's net position as of December 31, 2020 was $746.4 million, an increase of $154.0 million, or 26.0%, compared to the balance at December 31, 2019. Net position, as a percent of total assets, increased from 19.2% as of December 31, 2019 to 21.0% as of December 31, 2020.

Condensed Summary of Revenues, Expenses and Changes in Net Position
(in thousands of dollars)

For the years ended December 31,	2020	2019	2018
Interest income and expense:			
Interest on loans receivable	$ 46,525	$ 53,150	$ 55,876
Interest on investments	53,185	42,800	23,962
Interest on debt	(72,716)	(65,211)	(66,597)
Net interest income	26,994	30,739	13,241
Other operating income:			
Gain on sale of loans	128,425	106,014	83,817
Investment derivative activity gain	(5,108)	4,774	780
Net increase in the fair value of investments	52,472	46,266	3,093
Other revenues	56,868	50,848	41,151
Total other operating income	232,657	207,902	128,841
Total operating income	259,651	238,641	142,082
Operating expenses:			
Salaries and related benefits	20,613	20,343	26,211
General operating	92,777	89,834	61,870
Depreciation	913	1,006	1,038
Provision for loan losses	2,391	2,538	261
Total operating expenses	116,694	113,721	89,380
Net operating income	142,957	124,920	52,702
Nonoperating expenses:			
Grant revenues	193,872	146,397	140,231
Grant expenses	(182,807)	(146,397)	(140,231)
Gain on sale of capital assets	-	-	18
Total nonoperating income and expenses, net	11,065	-	18
Change in net position	154,022	124,920	52,720
Net position:			
Beginning of year	592,410	467,490	417,000
Restatement due to GASB 75	-	-	(2,230)
End of year	$ 746,432	$ 592,410	$ 467,490

Revenues, Expenses and Changes in Net Position

As reflected in the Statement of Revenues, Expenses and Changes in Net Position, the change in net position in 2020 was $29.1 million or 23.3% more than the results at December 31, 2019. The increase in net position compared to the prior year was primarily composed of the following:

- A $3.7 million decrease in net interest income. This decrease is primarily the result of a decrease in loans receivable interest income resulting from an increase in loan prepayments due to decreases in interest rates.

- A $24.8 million increase in other operating income as a result of the following:
  - $22.4 million increase in gain on sale of loans. This change was driven by an increase in the amount of single family loans being pooled into MBS and sold through the TBA market at a premium. Additionally, the MBS that were sold through the TBA market generally earned a higher premium than MBS sold in the prior year. Year-over-year growth in Single Family loan sale volume is depicted in the table below.

Single Family Loans Sold (in thousands)	**2020**	**2019**	**2018**
GNMA	$ 2,651,041	$ 1,992,581	$ 1,406,158
FNMA	354,684	674,418	613,261
FHLMC	63,644	143,009	43,993
Total Single Family Loans Sold	$ 3,069,369	$ 2,810,008	$ 2,063,412

  - $9.9 million decrease in investment derivative activity
  - $6.2 million increase in fair value of investments
  - $6.0 million increase in other revenues related to program fee income

- A $3.0 million increase in total operating expenses due to an increase in servicing expenses related to COVID-19 loan forbearances.
- A $11.1 million increase in nonoperating income related to federal grant commitments that will be paid out in subsequent years.

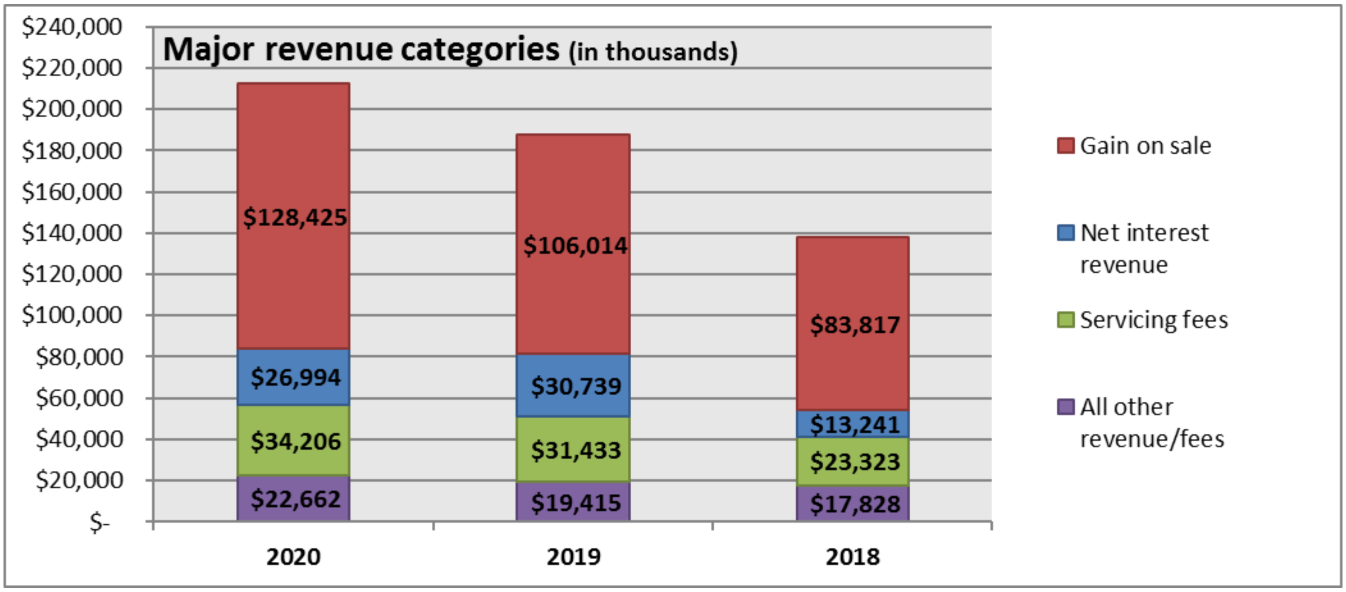
During 2019, total other operating income increased by $79.1 million, or 61.4%, compared to 2018. The following contributed to the increase:

- Other revenues increased $9.7 million related to servicing fee income.
- Gain on sale of loans increased $22.2 million due to an increase in the amount of single family loans being pooled into MBS and sold through the TBA market at a premium. Additionally, the MBS that were sold earned a higher premium than MBS sold in the prior year.
- The fair value of investments and investment derivative activity collectively increased by $47.2 million due primarily to changes in market rates during 2019.

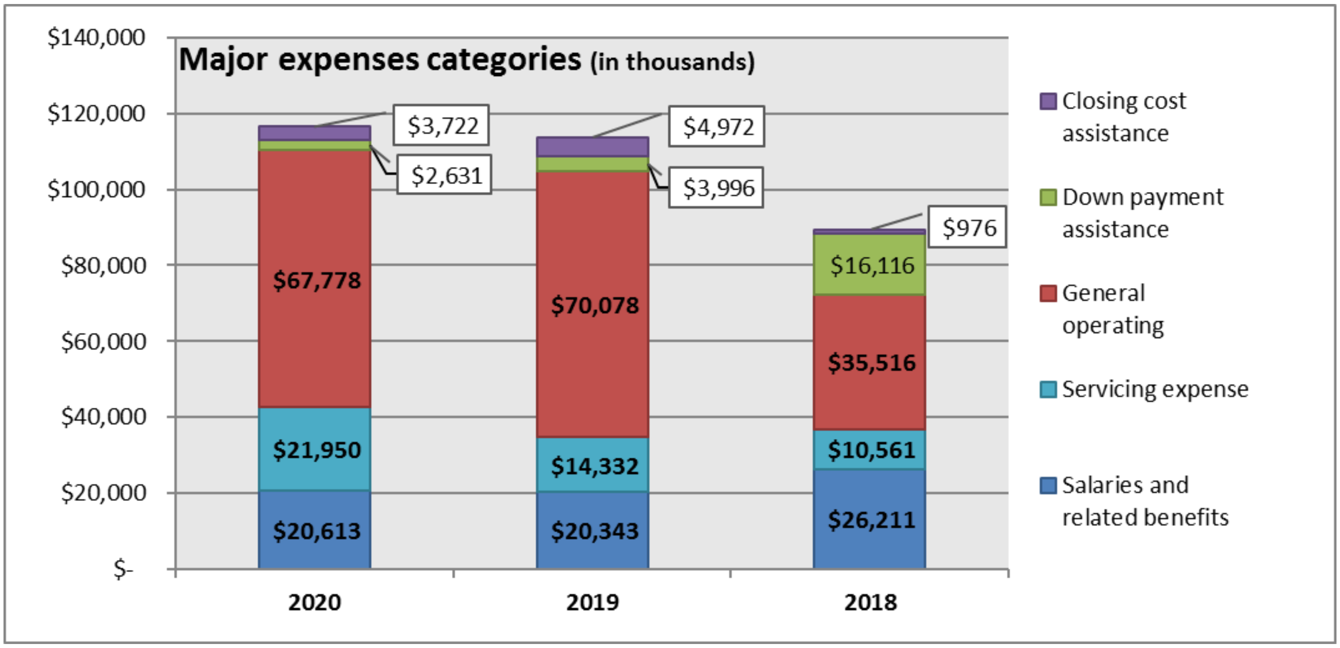
Total operating expenses in 2019 increased $24.3 million, or 27.2%, compared to 2018 primarily due to fair market valuations and increased amortization on servicing release premiums related to loan payoffs.

The federal grant receipts/payments consisted primarily of pass-through amounts related to the Authority's role as a contract administrator of the U.S. Department of Housing and Urban Development's Section 8 subsidy program. Under the Section 8 subsidy program, tenants pay 30% of their income toward rent and the balance is paid by federal subsidy.

A review of select revenue and expense accounts depicts the growth the Authority has experienced over the past few years. Much of this growth is the result of increases in the Authority's single family loan production volume, the majority of which is ultimately sold for a premium in the secondary market.



Gain on sale represents the gain recognized on the sale of single family loans in the secondary market at a premium.
The all other revenues/fees category is primarily made up of PBCA, LIHTC and conduit transaction fees.



Amounts reported in salaries and related benefits include entries related to GASB Statement No. 68 pension expense and GASB Statement No. 75 OPEB expense. These amounts totaled ($4.8) million, $(3.1) million and $3.9 million for fiscal years, 2020, 2019 and 2018, respectively.

Economic Factors and Next Year's Budget

The 2021 Budget was developed to provide desired products and services while maintaining financially responsible practices. While the Authority has been able to keep pace with the significant increase in loan volume, we remain cautious about the state economy over the next several years.

During 2021, the Authority's consolidated net interest revenue is projected to increase over amounts reported as of December 31, 2020. The Authority's loan portfolios are projected to increase in size in 2021 due to the continued efforts to add loans and investment securities to the balance sheet. Related debt is also projected to increase in 2021, but the result should be a net increase to net interest revenue overall. A contributor to this change is that the Authority anticipates adding over $800 million in new loans and investment securities to the balance sheet as a result of single family and multifamily lending operations.

Pressure on tax credit equity pricing and strong demand for affordable rental housing throughout the state are increasing the need for multifamily financing products and services. This being the case, the Authority is working to enhance its product offerings and increase its presence and visibility within the multifamily financing space. We believe this will result in an increase in the pipeline of multifamily loans the Authority finances in the years to come. The Authority also expects business finance production to continue to generate fee income through the Authority's lending activities.

Securitizing single family loan production and selling the securities for their market premiums is projected to continue to be the major Single Family program model in 2021. The budget reflects a 'purchase and sell' model for 77% of the $3.6 billion in budgeted Single Family loan production. The remaining 23% is budgeted to be bond-financed in an effort to continue rebuilding the Authority's loan portfolio, providing future net interest revenue. The 2021 budget projects single family production to increase over 2020 results, as demand for the Authority's down payment assistance (DPA) in the form of second mortgages remains high.

The Authority's operating expenses are projected to increase over amounts reported for 2020. This increase will reside primarily within the Authority's salaries and related benefits and general operating categories and is due to budgeted merit increases, modest staffing increases, increases in health insurance premium expense and increases in loan servicing costs as loans affected by the COVID-19 pandemic begin coming out of forbearance.

Certain of the matters contained in this management's discussion and analysis about our future performance, including, without limitation, future revenues, earnings, strategies, prospects, consequences and all other statements that are not purely historical constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements are subject to risks and uncertainties, which could cause actual results to differ materially from those anticipated. Such statements are based on management's beliefs as well as assumptions made by and information currently available to management.

Readers are cautioned not to place undue reliance on these forward-looking statements in making any investment decisions with regards to our securities. Forward-looking statements made in this discussion apply only as of the date of these financial statements. While we may elect to update forward-looking statements from time to time, we specifically disclaim any obligation to do so, even in light of new information or future events, unless otherwise required by applicable laws.

Requests for Information

This financial report is designed to provide a general overview of the Authority's finances. Questions concerning the information provided in this report or other financial information should be addressed to the Chief Financial Officer at Colorado Housing and Finance Authority, 1981 Blake Street, Denver, Colorado 80202 (303-297-2432 or toll free, 800-877-2432).

basic financial statements

Colorado Housing and Finance Authority
Statement of Net Position
As of December 2020 and 2019
(in thousands of dollars)

	2020	2019
Assets		
Current assets:		
Cash		
Restricted	**$ 228,950**	$ 219,764
Unrestricted	**70,222**	68,915
Investments (partially restricted, see note 2)	**298,932**	300,672
Loans receivable (partially restricted, see note 3)	**37,175**	34,878
Loans receivable held for sale	**231,084**	224,437
Other current assets	**24,950**	21,229
Total current assets	**891,313**	869,895
Noncurrent assets:		
Investments (partially restricted, see note 2)	**1,512,506**	1,131,882
Loans receivable, net (partially restricted, see note 3)	**1,078,085**	1,011,461
Capital assets, net	**12,603**	12,963
Other assets	**58,047**	54,292
Total noncurrent assets	**2,661,241**	2,210,598
Total assets	**3,552,554**	3,080,493
Deferred outflows of resources		
Accumulated increase in fair value of hedging derivatives	**116,075**	82,933
Pension and OPEB contributions and investment earnings	**3,278**	6,123
Refundings of debt	**1,174**	1,018
Total deferred outflows of resources	**120,527**	90,074
Liabilities		
Current liabilities:		
Short-term debt	**177,891**	178,000
Bonds payable	**305,582**	46,438
Notes payable	**57**	57
Hybrid instrument borrowings	**1,567**	1,760
Other current liabilities	**221,592**	229,997
Total current liabilities	**706,689**	456,252
Noncurrent liabilities:		
Bonds and notes payable	**2,016,642**	1,955,631
Derivative instruments	**119,417**	81,133
Hybrid instrument borrowings	**4,981**	6,360
Net pension and OPEB liability - proportionate share	**19,777**	32,816
Other liabilities	**49,307**	41,508
Total noncurrent liabilities	**2,210,124**	2,117,448
Total liabilities	**2,916,813**	2,573,700
Deferred inflows of resources		
Accumulated decrease in fair value of hedging derivatives	**2,981**	3,019
Pension and OPEB investment differences	**6,855**	1,438
Total deferred inflows of resources	**9,836**	4,457
Net position		
Investment in capital assets, net of related debt	**2,132**	2,172
Restricted by grants	**11,065**	-
Restricted primarily by bond indentures	**243,622**	174,997
Unrestricted	**489,613**	415,241
Total net position	**$ 746,432**	$ 592,410

See accompanying notes to basic financial statements.

Colorado Housing and Finance Authority
Statement of Revenues, Expenses and Changes in Net Position
For the years ended December 2020 and 2019

(in thousands of dollars)

	2020	2019
Interest income and expense:		
Interest on loans receivable	**$ 46,525**	$ 53,150
Interest on investments	**53,185**	42,800
Interest on debt	**(72,716)**	(65,211)
Net interest income	**26,994**	30,739
Other operating income:		
Gain on sale of loans	**128,425**	106,014
Investment derivative activity gain	**(5,108)**	4,774
Net increase in the fair value of investments	**52,472**	46,266
Other revenues	**56,868**	50,848
Total other operating income	**232,657**	207,902
Total operating income	**259,651**	238,641
Operating expenses:		
Salaries and related benefits	**20,613**	20,343
General operating	**92,777**	89,834
Depreciation	**913**	1,006
Provision for loan losses	**2,391**	2,538
Total operating expenses	**116,694**	113,721
Net operating income	**142,957**	124,920
Nonoperating income and expenses:		
Grant revenues	**193,872**	146,397
Grant expenses	**(182,807)**	(146,397)
Total nonoperating income and expenses	**11,065**	-
Change in net position	**154,022**	124,920
Net position:		
Beginning of year	**592,410**	467,490
End of year	**$ 746,432**	$ 592,410

See accompanying notes to basic financial statements.

Colorado Housing and Finance Authority
Statement of Cash Flows
For the years ended December 2020 and 2019
(in thousands of dollars)

	2020	2019
Cash flows from operating activities:		
Principal payments received on loans receivable and receipts from dispositions of other real estate owned	**$ 560,368**	$ 638,330
Interest payments received on loans receivable	**47,423**	52,642
Payments for loans receivable	**(3,305,111)**	(3,061,626)
Receipts from sales of Ginnie Mae securities	**2,795,078**	2,480,642
Changes in servicing escrows	**(6,491)**	93,414
Receipts from other revenues	**56,461**	45,734
Payments for salaries and related benefits	**(34,252)**	(18,859)
Payments for goods and services	**(89,788)**	(98,206)
All other, net	**5,239**	(2,049)
Net cash provided by operating activities	**28,927**	130,022
Cash flows from noncapital financing activities:		
Net decrease in short-term debt	**(109)**	(59,500)
Proceeds from issuance of bonds	**640,806**	870,864
Receipts from federal grant programs	**192,496**	151,908
Payments for federal grant programs	**(182,807)**	(146,397)
Principal paid on bonds	**(330,272)**	(244,315)
Principal paid on notes payable	**(57)**	(138)
Interest rate swap activity, net	**326**	-
Interest paid on short-term debt	**(1,860)**	(5,628)
Interest rate swap settlements	**(18,593)**	(13,639)
Interest paid on bonds	**(42,919)**	(31,595)
Interest paid on notes payable	**(1,198)**	(1,153)
Net cash provided by noncapital financing activities	**255,813**	520,407
Cash flows from capital and related financing activities:		
Purchase of capital assets	**(553)**	(82)
Net cash used in capital and related financing activities	**(553)**	(82)
Cash flows from investing activities:		
Proceeds from maturities and sales of investments	**4,465,733**	4,898,865
Purchase of investments	**(4,793,540)**	(5,460,222)
Income received from investments	**54,113**	40,836
Net cash used in capital and related financing activities	**(273,694)**	(520,521)
Net increase in cash	**10,493**	129,826
Cash at beginning of year	**288,679**	158,853
Cash at end of year	**$ 299,172**	$ 288,679
Restricted	**$ 228,950**	$ 219,764
Unrestricted	**70,222**	68,915
Cash, end of year	**$ 299,172**	$ 288,679

Continued on the next page

Colorado Housing and Finance Authority
Statement of Cash Flows *(continued)*
For the years ended December 2020 and 2019
(in thousands of dollars)

	2020	2019
Reconciliation of operating income to net cash provided by operating activities:		
Net operating income	**$ 142,957**	$ 124,920
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation expense	**913**	1,006
Amortization and fair value adjustments of service release premiums	**29,447**	34,752
Proportionate share of net pension expense	**(4,777)**	(3,142)
Amortization of derivatives related borrowings	**(1,903)**	(7,939)
Provision for loan losses	**2,391**	2,538
Interest on investments	**(53,183)**	(42,795)
Interest on debt	**74,618**	73,149
Unrealized loss (gain) on investment derivatives	**5,108**	(4,774)
Unrealized gain on investments	**(52,474)**	(46,269)
Loss on sale of real estate owned	**30**	48
Gain on sale of loans receivable held for sale	**(128,425)**	(106,014)
Changes in assets and liabilities:		
Loans receivable and other real estate owned	**20,858**	22,546
Accrued interest receivable on loans and investments	**898**	(508)
Other assets	**(4,926)**	(5,330)
Accounts payable and other liabilities	**(2,605)**	87,834
Net cash provided by operating activities	**$ 28,927**	$ 130,022

See accompanying notes to basic financial statements.

notes to basic
financial statements

1) Organization and Summary of Significant Accounting Policies

(a) Authorizing Legislation and Reporting Entity

Authorizing Legislation - The Colorado Housing and Finance Authority (the Authority) is a body corporate and a political subdivision of the State of Colorado (the State) established pursuant to the Colorado Housing and Finance Authority Act, Title 29, Article 4, Part 7 of the Colorado Revised Statutes (the Statutes), as amended (the Act). The Authority is not a state agency and is not subject to administrative direction by the State. The governing body of the Authority is its Board of Directors (the Board). Operations of the Authority commenced in 1974. The Authority is not a component unit of the State or any other entity.

The Authority was created for the purpose of making funds available to assist private enterprise and governmental entities in providing housing facilities for lower- and moderate-income families. Under the Act, the Authority is also authorized to finance projects and working capital loans to industrial and commercial enterprises (both for-profit and nonprofit) of small and moderate size.

In 1992, Colorado voters approved an amendment to the State Constitution, Article X, Section 20, which, among other things, imposes restrictions on increases in revenue and expenditures of state and local governments (known as the Taxpayer Bill of Rights or TABOR). In the opinion of its bond counsel, the Authority is a "special purpose authority", not part of the "State" under C.R.S. 24-77-102(15) and (16), and not a "district" as defined in TABOR and is therefore exempt from its provisions.

In 2001, the Colorado state legislature repealed the limitation on the amount of debt that the Authority can issue as well as removed the moral obligation of the State on future debt issues of the Authority. The bonds, notes and other obligations of the Authority do not constitute debt of the State.

Lending and Housing Programs – The Authority accounts for its lending and operating activities in the following groups:

General Program – The General Program is the Authority's primary operating program. It accounts for assets, deferred outflows, liabilities, deferred inflows, revenues and expenses not directly attributable to a bond program. Most of the bond resolutions of the programs permit the Authority to make cash transfers to the general accounts after establishing reserves required by the bond resolutions. The general accounts financially support the bond programs when necessary. The general accounts include proprietary loan programs developed by the Authority to meet the needs of low- and moderate-income borrowers not served by traditional lending programs. The general accounts also include administrative activities related to the federal government's Section 8 housing assistance payments program.

Single Family Program – The Single Family Program includes bonds issued and assets pledged for payment of the bonds under the related indentures. Loans acquired under this program with the proceeds of single family bond issues include Federal Housing Administration (FHA), conventional, United States Department of Agriculture (USDA) Rural Development, Rural Economic and Community Development Department (RD), and Veterans Administration (VA) loans made under various loan programs.

Multifamily/Business Program – The Multifamily/Business Program includes bonds issued and assets pledged for payment of the bonds under the related indentures. Loans acquired under this program with the proceeds of multifamily and business (sometimes referred to as project) bond issues include loans made for the purchase, construction or rehabilitation of multifamily rental housing. In addition, business loans are made to both for-profit and nonprofit organizations primarily for the purpose of acquisition or expansion of their facilities or for the purchase of equipment.

(b) Basis of Accounting

The Authority presents its financial statements in accordance with United States Generally Accepted Accounting Principles (U.S. GAAP) as established by the Governmental Accounting Standards Board (GASB). For financial purposes, the Authority is considered a special-purpose government engaged in business-type activities. The financial statements are prepared using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis, revenues are recognized when earned, and expenses are recorded when incurred. All significant intra-entity transactions have been eliminated.

(c) Summary of Significant Accounting Policies

Estimates – The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, deferred outflows and deferred inflows and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reported period. Significant estimates to the Authority's financial statements include the allowance for loan losses and fair value estimates. Actual results could differ from those estimates.

Cash and Restricted Cash – The Authority's cash and cash equivalents are represented by cash on hand and demand deposits held in banks. Restricted cash includes payments received on pledged assets and used for the payment of bonds under the related indenture agreements. Also included in restricted cash are escrow balances, payments in process and various government deposits.

Restricted Assets – Amounts related to Single Family and Multifamily/Business Programs are considered restricted and are detailed in the supplemental schedules. Restricted assets are held for the benefit of respective bondholders and accounted for by program. Certain other assets are held on behalf of various governmental housing initiatives or regulations.

Investments – Noncurrent investments of the Authority, representing those investments which are held as reserves under indenture or other restrictions, are reported at either amortized cost or fair value based on values obtained from third-party pricing services. The values are based on quoted market prices when available or on adjusted value in relation to observable prices on similar investments. Money market investments are reported at amortized cost. Investment amounts related to Single Family and Multifamily/Business Programs are considered restricted and are detailed in the supplemental schedules.

Loans Receivable – Mortgage loans receivable are reported at their unpaid principal balance net of an allowance for estimated loan losses. Loans related to Single Family and Multifamily/Business Programs are considered restricted and are detailed in the supplemental schedules.

Loans Receivable Held for Sale – Loans originated or acquired and intended for sale in the secondary market are carried at the lower of cost or fair value. Gains and losses on loan sales (sales proceeds minus carrying value) are reported as other operating income.

Allowance for Loan Losses – The allowance for loan losses is a reserve against current operations based on management's estimate of expected loan losses. Management's estimate considers such factors as the payment history of the loans, the projected cash flows of the borrowers, estimated value of the collateral, subsidies, guarantees, mortgage insurance, historical loss experience for each loan type, additional guarantees provided by the borrowers and economic conditions. Based on review of these factors, a total reserve amount is calculated and a provision is made against current operations to reflect the estimated balance.

Troubled Debt Restructuring – A restructuring of a debt constitutes a troubled debt restructuring if the creditor for economic or legal reasons related to the debtor's financial difficulties grants a concession to the debtor that it would not otherwise consider. Whatever the form of concession granted by the creditor to the debtor in a troubled debt restructuring, the creditor's objective is to make the best of a difficult situation. That is, the creditor expects to obtain more cash or other value from the debtor, or to increase the probability of receipt, by granting the concession than by not granting it.

Interest income is recognized using the new interest rate after restructuring, which approximates the effective interest rate. Additional information is disclosed in the loans receivable note. See note 3.

Capital Assets – Capital assets are defined by the Authority as assets with an initial, individual cost of $10 thousand or greater and an estimated life of greater than one year. Capital assets are depreciated or amortized using the straight-line method over their estimated useful lives, which are 30 years for buildings and from 3 to 10 years for furniture and equipment.

Other Noncurrent Assets – Other noncurrent asset balances as of December 31, 2020 and 2019, were $58.0 million and $54.3 million, respectively. Included in these amounts are mortgage servicing rights of $54.5 million and $49.9 million as of December 31, 2020 and 2019, respectively, related to loans sold by the Authority for which the Authority retained the mortgage servicing. These mortgage servicing rights are reported at the lower of cost or fair value.

The Authority recorded fair market value adjustments of $2.7 million and $14.1 million on mortgage servicing rights as of December 31, 2020 and 2019, respectively. The adjustments are reported in general operating expense on the Statement of Revenues, Expenses and Changes in Net Position.

Bonds – Bonds payable are general and limited obligations of the Authority and are not a debt or liability of the State or any subdivisions thereof. Each bond issue is secured, as described in the applicable trust indenture, by all revenues, moneys, investments, mortgage loans, and other assets in the accounts of the program. Virtually all of the Authority's loans and investments are pledged as security for the bonds. The provisions of the applicable trust indentures require or allow for redemption of bonds through the use of unexpended bond proceeds and excess funds accumulated primarily through prepayment of mortgage loans and program certificates. All outstanding bonds are subject to redemption at the option of the Authority, in whole or in part at any time after certain dates, as specified in the respective series indentures.

The Authority issues fixed rate and variable rate bonds. The rate on the fixed rate bonds is set at bond closing. The variable rate bonds bear interest at either a monthly or a weekly rate until maturity or earlier redemption. For bonds that pay weekly rates, the remarketing agent for each bond issue establishes the weekly rate according to each indenture's remarketing agreement. The weekly rates are communicated to the various bond trustees for preparation of debt service payments. The weekly rate, as set by the remarketing agent, allows the bonds to trade in the secondary market at a price equal to 100% of the principal amount of the bonds outstanding, with each rate not exceeding maximum rates permitted by law.

The Authority has variable rate demand bonds that have Stand-by Purchase Agreements (SBPA), which state that the issuer of the SBPA will purchase the bonds in the event the remarketing agent is unsuccessful in marketing the bonds. In this event, the interest rate paid by the Authority will be calculated using a defined rate from the SBPA. If the bonds remain unsold for a period of 90 days, they are deemed to be "bank bonds" and the Authority is required to repurchase the bonds from the SBPA issuer. The timing of this repurchase, or term out, will vary by issuer from two to five years.

Bond Discounts and Premiums – Discounts and premiums on bonds payable are amortized to interest expense over the lives of the respective bond issues using the effective interest method.

Debt Refundings – For current refundings and advance refundings resulting in defeasance of debt, the difference between the reacquisition price and the net carrying amount of the old debt is deferred and amortized as a component of interest expense over the remaining life of the old or new debt, whichever is shorter. The difference is amortized using the effective interest method, with the exception of the amount relating to deferred loss on terminated interest rate swap hedging relationships, which is amortized on a straight-line basis. The deferred refunding amounts are classified as a component of deferred outflows on the Statement of Net Position.

Derivative Instruments – Derivative instruments, as defined in GASB No. 53, *Accounting and Financial Reporting for Derivative Instruments*, are measured on the Statement of Net Position at fair value. Changes in fair value for those derivative instruments that meet the criteria for hedging instruments under GASB No. 53 are reported as deferred inflows and outflows. Changes in fair value of investment derivative instruments, which are ineffective derivative instruments, are reported within investment derivative activity loss starting in the period of change.

Derivative Instruments – Interest Rate Swap Agreements – The Authority enters into interest rate swap agreements (swap) with rated swap counterparties in order to (1) provide lower cost fixed rate financing for its loan production needs through synthetic fixed rate structures and (2) utilize synthetic fixed rate structures with refunding bonds in order to generate cash flow savings. The interest differentials to be paid or received under such swaps are recognized as an increase or decrease in interest expense of the related bond liability. The Authority enters into fixed payor swaps, where it pays a fixed interest rate in exchange for receiving a variable interest rate from the counterparty. The variable interest rate may be based on either a taxable or tax-exempt index. By entering into a swap agreement, the Authority hedges its interest rate exposure on the associated variable rate bonds. The Authority's interest rate swaps are generally considered to be hedging derivative instruments under GASB No. 53. However, certain interest rate swaps have been deemed ineffective and are classified as investment derivative instruments. Additional information about the swap agreements is provided in note 8.

Derivative Instruments – Forward Sales Contracts – Forward sales of mortgage backed securities within the To-Be-Announced market are utilized to hedge changes in fair value of mortgage loan inventory and commitments to purchase mortgage loans at fixed rates. As of December 31, 2020, the Authority had executed 47 forward sales transactions with a $612.0 million notional amount with nine counterparties with concentrations and ratings (Standard and Poor's/Moody's Investors Service) as shown in note 8. The forward sales will all settle by March 18, 2021. These contracts are considered investment derivative instruments and carry a fair value of $4.2 million as of December 31, 2020. As of December 31, 2019, the Authority had executed 63 forward sales transactions with a $618.0 million notional amount with eight counterparties with concentrations and ratings (Standard and Poor's/Moody's Investors Service) as shown in note 8. The forward sales all settled by March 23, 2020. These contracts are considered investment derivative instruments and carry a fair value of $1.6 million as of December 31, 2019.

Hybrid Instrument Borrowings – Hybrid instrument borrowings represent cash premiums received on interest rate swaps that had a fair value other than zero at the date of execution, generally because the fixed rates were different from market rates at that date. Interest expense is imputed on these borrowings, which are reported at amortized cost.

Net Pension Liability – For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, pension expense, information about the fiduciary net position of the Public Employee's Retirement Association of Colorado (PERA) pension plan and additions to/deductions from PERA's fiduciary net position have been determined on the same basis as they are reported by PERA. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms.

Post Employment Benefits Other than Pension (OPEB) – For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the OPEB Plan and additions to/deductions from the plan fiduciary net position have been determined on the same basis as they are reported by PERA. For this purpose, PERA recognizes benefit payments when due and payable in accordance with the benefit terms.

Other Liabilities – The major other liabilities are as follows:

- *Servicing escrow:* The net amount of collected escrow funds currently being held on behalf of borrowers to pay future obligations of property taxes and insurance premiums due on real properties. The Authority has a corresponding asset that is recorded in restricted cash.
- *Deferred Low Income Housing Tax Credit Income:* Compliance monitoring fees collected in advance on multifamily properties that have been awarded low-income housing tax credits to be used over a 15-year period. These fees

cover the ongoing cost the Authority incurs to certify that these properties remain low-income compliant during the 15-year period and continue to be eligible to use the tax credits awarded.

- *Compensated Absences:* Employees accrue paid time off at a rate based on length of service. Employees may accrue and carry over a maximum of 150% of their annual paid time off benefit. The liability for compensated absences is based on current salary rates and is reported in the Statement of Net Position.
- *Federal Financing Bank (FFB) Program:* Certificates of Participation of multi-family loans are sold to FFB and entitles FFB to a portion of interest and 100% of principal received from participated mortgage loans. The Authority has a corresponding asset that is recorded in loans receivable.

Classification of Revenues and Expenses – The Authority distinguishes operating revenues and expenses from nonoperating items. Operating revenues and expenses generally result from providing services in connection with the Authority's ongoing operations. The principal operating revenues of the Authority are interest income on loans, gain on sale of loans and investment income. The Authority also recognizes revenues from rental operations and other revenues, which include loan servicing fees and other administrative fees. Operating expenses include interest expense, administrative expenses, depreciation, and the provision for loan losses. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

The Authority's nonoperating revenues and expenses consist primarily of pass-through amounts related to the Authority's role as a contract administrator of the U.S. Department of Housing and Urban Development's (HUD) Section 8 subsidy program. Under the Section 8 subsidy program, tenants pay 30% of their income toward rent and the balance is paid to the Authority by federal subsidy.

Future Accounting Principles – GASB issued Statement No. 87 *Leases*, which is effective for reporting periods beginning after December 15, 2019. This Statement was set to be applicable to the Authority in 2020; however, due to COVID-19 GASB issued Statement No. 95 *Postponement of the Effective Dates of Certain Authoritative Guidance* and will now be set to be applicable to the Authority in 2022. The objective of Statement No. 87 is to better meet the informational needs of financial statement users by improving accounting and financial reporting for leases by governments. This Statement increases the usefulness of a governments' financial statements by requiring the recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow or resources, thereby enhancing the relevance and consistency of information about governments' leasing activities. The financial impact of the applicability of Statement No. 87 on the Authority's financial statements has not yet been determined.

GASB issued Statement No. 89 *Accounting for Interest Cost Incurred Before the End of a Construction Period*, which is effective for reporting periods beginning after December 15, 2019. This Statement was set to be applicable to the Authority in 2020; however, due to COVID-19 GASB issued Statement No. 95 *Postponement of the Effective Dates of Certain Authoritative Guidance* and will now be set to be applicable to the Authority in 2021. The primary objectives of Statement No. 89 are (1) to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period and (2) to simplify accounting for interest cost incurred before the end of a construction period.

This Statement establishes accounting requirements for interest cost incurred before the end of a construction period. Such interest cost includes all interest that previously was accounted for in accordance with the requirements of paragraphs 5–22 of Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements,* which are superseded by this Statement. This Statement requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred for financial statements prepared using the economic resources measurement focus. As a result, interest cost incurred before the end of a construction period will not be included in the historical cost of a capital asset reported in a business-type activity or enterprise fund.

This Statement also reiterates that in financial statements prepared using the current financial resources measurement focus, interest cost incurred before the end of a construction period should be recognized as an expenditure on a basis consistent with governmental fund accounting principles. The impact of the applicability of Statement No. 89 on the Authority's financial statements, and footnotes therein, has not yet been determined.

GASB issued Statement No. 91 *Conduit Debt Obligations*, which is effective for reporting periods beginning after December 15, 2020. This Statement was set to be applicable to the Authority in 2021; however, due to COVID-19 GASB issued Statement No. 95 *Postponement of the Effective Dates of Certain Authoritative Guidance* and will now be set to be applicable to the Authority in 2022. The primary objectives of Statement No. 91 are to provide a single method of reporting conduit debt obligations by issuers and eliminate diversity in practice associated with (1) commitments extended by issuers, (2) arrangements associated with conduit debt obligations and (3) related note disclosures. The Statement achieves those objectives by clarifying the existing definition of a conduit debt obligation; establishing that a conduit debt obligation is not a liability of the issuer; establishing standards for accounting and financial reporting of additional commitments and voluntary commitments extended by issuers and arrangements associated with conduit debt obligations; and improving required note disclosures.

The Statement defines conduit debt with the following characteristics:

- At least three parties involved (1) issuer, (2) third-party obligor and (3) debt holder or trustee.
- The issuer and third-party obligor are not within the same financial reporting entity.
- The debt obligation is not a parity bond of the issuer, nor is it cross-collateralized with other debt.
- The third-party obligor or its agent, not the issuers, ultimately receives the proceeds from the debt issuance.
- The third-party obligor, not the issuer, is primarily obligated for the payment of all amounts associated with the debt obligation (debt service payments).

This Statement requires the issuers to disclose general information about their conduit debt obligations, organized by type of commitment, including the aggregate outstanding principal amount of the issuers' conduit debt obligations and a description of each type of commitment. Issuers that recognize liabilities related to supporting the debt service of conduit debt obligations also should disclose information about the amount recognized and how the liabilities changed during the reporting period. The impact of the applicability of Statement No. 91 on the Authority's financial statements, and footnotes therein, has not yet been determined.

GASB issued Statement No. 92 *Omnibus 2020*, which is effective for reporting periods beginning after June 15, 2020, except where noted. This Statement was set to be applicable to the Authority in 2021; however, due to COVID-19 GASB issued Statement No. 95 *Postponement of the Effective Dates of Certain Authoritative Guidance* and will now be set to be applicable to the Authority in 2022. The primary objectives of Statement No. 92 are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing practice issues that have been identified during implementation and application of certain GASB Statements.

This Statement addresses a variety of topics and includes specific provisions about the following:

- The effective date of Statement No. 87, *Leases*, and Implementation Guide No. 2019-3, *Leases*, for interim financial reports. The requirements of Statement No. 92 related to the effective date of Statement 87 and Implementation Guide 2019-3, reinsurance recoveries, and terminology used to refer to derivative instruments are effective upon issuance.

- Reporting of intra-entity transfers of assets between a primary government employer and a component unit defined benefit pension plan or OPEB plan.
- The applicability of Statements No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*, as amended, and No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, as amended, to reporting assets accumulated for postemployment benefits.
- The applicability of certain requirements of Statement No. 84, *Fiduciary Activities*, to postemployment benefit arrangements.
- Measurement of liabilities (and assets, if any) related to asset retirement obligations (AROs) in a government acquisition.
- Reporting by public entity risk pools for amounts that are recoverable from reinsurers or excess insurers.
- Reference to nonrecurring fair value measurements of assets or liabilities in authoritative literature.
- Terminology used to refer to derivative instruments.

The requirements of this Statement will enhance comparability in the application of accounting and financial reporting requirements and will improve the consistency of authoritative literature. More comparable reporting will improve the usefulness of information for users of state and local government financial statements. The impact of the applicability of Statement No. 92 on the Authority's financial statements, and footnotes therein, has not yet been determined.

GASB issued Statement No. *93 Replacement of Interbank Offered Rates*, which has two effective dates (1) the removal of LIBOR as an appropriate benchmark interest rate is effective for reporting periods ending after December 31, 2021; (2) all other requirements of the statement is for reporting periods beginning after June 15, 2020. Some governments have entered into agreements in which variable payments made or received depend on an interbank offered rate (IBOR)—most notably, the London Interbank Offered Rate (LIBOR). As a result of global reference rate reform, LIBOR is expected to cease to exist in its current form at the end of 2021, prompting governments to amend or replace financial instruments for the purpose of replacing LIBOR with other reference rates, by either changing the reference rate or adding or changing fallback provisions related to the reference rate.

The objective of the statement is to address implications that result from the replacement of an IBOR by:

- Providing exceptions for certain hedging derivative instruments to the hedge accounting termination provisions when an IBOR is replaced as the reference rate of the hedging derivative instrument's variable payment
- Clarifying the hedge accounting termination provisions when a hedged item is amended to replace the reference rate
- Clarifying that the uncertainty related to the continued availability of IBORs does not, by itself, affect the assessment of whether the occurrence of a hedged expected transaction is probable.
- Removing LIBOR as an appropriate benchmark interest rate for the qualitative evaluation of the effectiveness of an interest rate swap
- Identifying a Secured Overnight Financing Rate and the Effective Federal Funds Rate as appropriate benchmark interest rates for the qualitative evaluation of the effectiveness of an interest rate swap
- Clarifying the definition of reference rate, as it is used in Statement 53, as amended.

This statement will be applicable to the Authority in 2021; however, the impact of the applicability of Statement No. 93 on the Authority's financial statements, and footnotes therein, has not yet been determined.

GASB issued Statement No. 94 *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*, which is effective for all fiscal years beginning after June 15, 2022. The primary objective of this Statement is to improve financial reporting by addressing issues related to public-private and public-public partnership arrangements (PPPs). As used in this

Statement, a PPP is an arrangement in which a government (the transferor) contracts with an operator (a governmental or nongovernmental entity) to provide public services by conveying control of the right to operate or use a nonfinancial asset, such as infrastructure or other capital asset (the underlying PPP asset), for a period of time in an exchange or exchange-like transaction.

This Statement also provides guidance for accounting and financial reporting for availability payment arrangements (APAs). As defined in this Statement, an APA is an arrangement in which a government compensates an operator for services that may include designing, constructing, financing, maintaining, or operating an underlying nonfinancial asset for a period of time in an exchange or exchange-like transaction. As the Authority does not currently participate in PPPs or APAs subject to this Statement, there is no expected impact to the Authority's financial statements.

GASB issued Statement No 96 *Subscription-based Information Technology Arrangements*, which is effective for fiscal years beginning after June 15, 2022. This Statement provides guidance on the accounting and financial reporting for subscription-based information technology arrangements (SBITAs) for government end users (governments). This Statement (1) defines a SBITA; (2) establishes that a SBITA results in a right-to-use subscription asset—an intangible asset—and a corresponding subscription liability; (3) provides the capitalization criteria for outlays other than subscription payments, including implementation costs of a SBITA; and (4) requires note disclosures regarding a SBITA. To the extent relevant, the standards for SBITAs are based on the standards established in Statement No. 87, Leases, as amended.

A SBITA is defined as a contract that conveys control of the right to use another party's (a SBITA vendor's) information technology (IT) software, alone or in combination with tangible capital assets (the underlying IT assets), as specified in the contract for a period of time in an exchange or exchange-like transaction. This statement will be applicable to the Authority in 2023; however, the impact of the applicability of Statement No 96 on the Authority's financial statements, and footnotes therein, has not yet been determined.

GASB issued Statement No. 97 *Certain Component Unit Criteria, and Account and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans* which is effective for all fiscal years beginning after June 15, 2021. The primary objectives of this Statement are to (1) increase consistency and comparability related to the reporting of fiduciary component units in circumstances in which a potential component unit does not have a governing board and the primary government performs the duties that a governing board typically would perform; (2) mitigate costs associated with the reporting of certain defined contribution pension plans, defined OPEB plans, and employee benefit plans other than pension plans or OPEB plans as fiduciary component units in fiduciary fund financial statements; and (3) enhance the relevance, consistency, and comparability of the accounting and financial reporting for Internal Revenue Code (IRC) Section 457 deferred compensation plans (Section 457 plans) that meet the definition of a pension plan and for benefits provided through those plans. This statement will be applicable to the Authority in 2022; however, the impact of the applicability of Statement No. 97 on the Authority's financial statements, and footnotes therein, has not yet been determined.

(2) Cash and Investments

Cash and Cash Equivalents – The Authority's cash and cash equivalents are reported as either restricted or unrestricted and are represented by cash on hand and demand deposits held in banks. Cash is classified as restricted when its use is subject to external limits such as bond indentures, legal agreements or statutes. Restricted cash includes payments received on pledged assets and used for the payment of bonds under the related indenture agreements. Also included in restricted cash are escrow balances, payments in process and various government deposits. As of December 31, 2020 and 2019, the Authority had unrestricted cash of $70.2 million and $68.9 million, respectively.

(tabular dollar amounts are in thousands)

Restricted cash as of December 31, 2020 and 2019 was as follows:

Summary of Restricted Cash	**2020**	**2019**
Customer escrow accounts	$ 182,098	$ 185,873
Payments in process	17,773	10,573
Administered program deposits	29,079	23,318
Total fair value	$ 228,950	$ 219,764

Custodial Credit Risk – Cash Deposits – In the case of cash deposits, custodial credit risk is the risk that in the event of a bank failure, cash deposits belonging to the Authority may not be returned. All deposit accounts were either covered by the Federal Deposit Insurance Corporation or fully collateralized in accordance with the State of Colorado's Division of Banking's Public Deposit Protection Act.

Included in cash deposits are escrow deposits in the amount of $182.1 million and $185.9 million held in a fiduciary capacity as of December 31, 2020 and 2019, respectively. These escrow deposits are primarily held for the payment of property taxes and insurance on behalf of the mortgagors whose loans are owned or serviced by the Authority.

Investments – The Authority is authorized by means of a Board-approved investment policy to invest in notes, bonds and other obligations issued or guaranteed by the U.S. government and certain governmental agencies. Additionally, the Authority is permitted to invest, with certain restrictions as to concentration of risk, collateralization levels, maximum periods to maturity, and/or underlying rating levels applied, in revenue or general obligations of states and their agencies, certificates of deposits, U.S. dollar denominated corporate or bank debt, commercial paper, repurchase agreements backed by U.S. government or agency securities, money market mutual funds and investment agreements. The Authority's investment policy requires 1) staggered maturities to avoid undue concentrations of assets in a specific maturity sector, 2) stable income, 3) adequate liquidity to meet operations and debt service obligations and 4) diversification to avoid overweighting in any one type of security. The Authority is also subject to permissible investments as authorized by Title 24, Article 75, Part 6 of the Statues. Permissible investments pursuant to the Statutes are either identical to or less restrictive than the Authority's investment policy. In addition, each of the trust indentures established under the Authority's bond programs contains requirements as to permitted investments of bond fund proceeds, which may be more or less restrictive than the Authority's investment policy. These investments are included in the disclosures below under State and political subdivision obligations.

General Program investments of $25.1 million include investments pledged as of December 31, 2020 as follows: $15.7 million in interest only strips held at Wells Fargo, FirstBank investments of Rural Development Loan Program (RDLP), RDLP II and RDLP V in the amounts of $887 thousand, $227 thousand and $362 thousand, respectively; each pledged as collateral for the RDLP notes payable and $277 thousand of investments pledged as collateral for private placement bonds.

General Program investments of $12.5 million include investments pledged as of December 31, 2019 as follows: Colorado Local Government Liquid Asset Trust (COLOTRUST) investments of Rural Development Loan Program (RDLP), RDLP II and RDLP V in the amounts of $866 thousand, $303 thousand and $513 thousand, respectively; each pledged as collateral for the RDLP notes payable and $994 thousand of investments pledged as collateral for private placement bonds.

All Single Family and Multifamily/Business Program investments, which total $1.8 billion and $1.4 billion as of December 31, 2020 and 2019, respectively, are restricted under bond indentures or other debt agreements, or otherwise pledged as collateral for borrowings. These amounts are detailed in the supplemental schedules.

(tabular dollar amounts are in thousands)

Interest Rate Risk – Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Except for the money market mutual fund investments, substantially all of the Authority's investments are subject to this risk.

As of December 31, 2020, the Authority had the following investment maturities:

	Investment Maturities (In Years)				
Investment Type	**Less Than 1**	**1-5**	**6-10**	**More Than 10**	**Total**
External investment pool	$ 9,144	$ -	$ -	$ -	$ 9,144
Investment agreements - uncollateralized	47,244	23,800	-	-	71,044
Money market mutual fund	230,323	-	-	-	230,323
Repurchase agreement	12,221	-	-	-	12,221
U.S. government agencies	-	-	17,201	1,470,792	1,487,993
U.S. Treasury	-	485	228	-	713
Total	$ 298,932	$ 24,285	$ 17,429	$ 1,470,792	$ 1,811,438

As of December 31, 2019, the Authority had the following investment maturities:

	Investment Maturities (In Years)				
Investment Type	**Less Than 1**	**1-5**	**6-10**	**More Than 10**	**Total**
External investment pool	$ 9,038	$ -	$ -	$ -	$ 9,038
Investment agreements - uncollateralized	35,526	-	-	-	35,526
Money market mutual fund	234,128	-	-	-	234,128
Repurchase agreement	8,752	-	-	-	8,752
U.S. government agencies	13,228	-	-	1,131,182	1,144,410
U.S. Treasury	-	498	-	202	700
Total	$ 300,672	$ 498	$ -	$ 1,131,384	$ 1,432,554

(tabular dollar amounts are in thousands)

Credit Risk – The following table provides credit ratings of the Authority's investments as determined by Standard and Poor's and/or Moody's Investors Service.

	2020		2019	
Investment Type	**Rating**	**Total**	**Rating**	**Total**
External investment pool	A-/A2	$ 9,144	A-/A2	$ -
External investment pool	AAAm	-	AAAm	9,038
Investment agreements - uncollateralized	AA-/Aa3	36,200	AA-/Aa3	-
Investment agreements - uncollateralized	AA+/Aa2	27,570	AA+/Aa2	28,375
Investment agreements - uncollateralized	A/A1	7,086	A/A1	7,042
Investment agreements - uncollateralized	BBB+/Baa1	188	BBB+/Baa1	109
Money market mutual fund	AAAm/Aaa	230,323	AAAm/Aaa	234,128
Repurchase agreements	AA+/Aaa	11,963	AA+/Aaa	8,752
Repurchase agreements	AAAm/Aaa	258	AAAm/Aaa	-
U.S. government agencies	AA+/Aaa	1,487,993	AA+/Aaa	1,144,410
U.S. Treasury	AA+/Aaa	713	AA+/Aaa	700
Total		$ 1,811,438		$ 1,432,554

Investment agreements meet the requirements of the rating agency providing the rating on the related debt issue and of the Board's investment policy. The Board's investment policy states that the Authority is empowered to invest in any security that is a revenue or general obligation of any political subdivision. The credit rating at the time of purchase must be rated in one of its two highest rating categories by one or more nationally recognized organizations, which regularly rate such obligations and concentration limits may not exceed more than 20% of the investment portfolio.

As of December 31, 2019, the Authority had invested in COLOTRUST, an investment vehicle established for local governmental entities in Colorado to pool funds available for investment. COLOTRUST is reflected in the above tables as an external investment pool. The State Securities Commissioner administers and enforces all State statutes governing COLOTRUST. COLOTRUST operates similarly to a money market fund and each share's fair value is $1.00.

Concentration of Credit Risk – The Authority has various maximum investment limits both by type of investment and by issuer to prevent inappropriate concentration of credit risk. The following table provides information on issuers in which the Authority has investments representing more than 5% of its total investments as of December 31, 2020 and 2019.

Issuer	**2020**	**2019**
FHLMC	1.54%	6.09%
GNMA	77.97%	72.87%
Goldman Sachs	5.49%	10.07%
Wells Fargo	6.97%	6.13%

Custodial Credit Risk – Investments – Custodial credit risk is the risk that, in the event of the failure of the custodian, the Authority will not be able to recover the value of its investment or collateral securities that are in the possession of the custodian. All securities owned by the Authority are either in the custody of the related bond indenture trustees or held in the name of the Authority by a party other than the issuer of the security.

(tabular dollar amounts are in thousands)

(3) Loans Receivable, Related Allowances and Troubled Debt Restructuring

Loans receivable and loans receivable held for sale at December 31, 2020 and 2019 consisted of the following:

	2020	2019
General Fund	$ 600,408	$ 535,793
Single Family Fund	232,442	268,647
Multifamily/Business Fund:		
Multifamily/Project	469,306	402,179
Multifamily Pass Through	105,551	121,989
Total Multifamily/Business Fund	574,857	524,168
Less intercompany loans, included in Multifamily/Project above	(50,471)	(50,791)
Total loans receivable	1,357,236	1,277,817
Payments in process	(3,506)	(661)
Allowance for loan losses	(7,386)	(6,380)
Total loans receivable, net	$ 1,346,344	$ 1,270,776

Loans in the Single Family Program and the Multifamily/Business Program in the table above are grouped based on the related bond type (see note 6 for additional information). Amounts related to these programs are considered restricted and are detailed in the supplemental schedules.

General Program loans include single family, multifamily and business finance loans acquired under various programs of the General Program, loans to be sold through the issuance of Ginnie Mae securities, loans to be sold to Fannie Mae and Freddie Mac, loans to be pooled and swapped for securities issued by Fannie Mae, loans held as investments and loans backed by bonds within the General Program. These loans are typically collateralized by mortgages on real property and improvements. Certain of these loans are also insured or guaranteed by agencies of the U.S. government.

Single family bond program loans are collateralized by mortgages on applicable real property and, in the case of loans with an initial loan-to-value ratio of 80% or more, are generally either insured by the FHA or guaranteed by the VA or RD or insured by private mortgage insurance.

The single family loan portfolio included in the general and single family programs as of December 31, 2020 was comprised of $360.7 million of FHA insured loans, $9.9 million of VA guaranteed loans, $10.6 million of RD guaranteed loans and $30.1 million of conventional insured loans with the balance of $337.4 million made up of uninsured conventional and second mortgage loans.

The single family loan portfolio included in the general and single family programs as of December 31, 2019 was comprised of $359.3 million of FHA insured loans, $10.7 million of VA guaranteed loans, $12.1 million of RD guaranteed loans and $50.2 million of conventional insured loans with the balance of $288.7 million made up of uninsured conventional and second mortgage loans.

(tabular dollar amounts are in thousands)

The Authority is exposed to operational risk, which makes it subject to loss or repurchase of insured FHA loans if specific guidelines are not met. As of both December 31, 2020 and 2019, the Authority recorded a reserve of $217 thousand and $212 thousand, respectively, for claim refunds to be paid to the HUD.

As of December 31, 2020 and 2019, single family mortgage loans with pending foreclosure actions have aggregate principal balances of approximately $1.4 million and $5.6 million, respectively. As of December 31, 2020 and 2019, the aggregate principal balance of single family mortgage loans delinquent 91 days or greater was approximately $34.5 million and $31.3 million, respectively.

The Multifamily/Business Program loans and a portion of General Program loans are commercial loans. Commercial loans are collateralized by mortgages on applicable real estate and, in some cases, are insured by an agency of the U.S. government, which reduces the credit risk exposure for that type of insured loan.

As of December 31, 2020, approximately $362.1 million, or 77.0%, of the commercial loan balances are not covered by insurance. The insured loans were comprised of $198.4 million of Section 542(c) risk share loans, which are 50% insured.

As of December 31, 2019, approximately $298.1 million, or 72.5%, of the commercial loan balances are not covered by insurance. The insured loans were comprised of $209.3 million of Section 542(c) risk share loans, which are 50% insured.

As of December 31, 2020 and 2019, there were no commercial loans with pending foreclosure actions. As of December 31, 2020 and 2019, the aggregate principal balance of commercial loans delinquent 91 days or greater was approximately $22 thousand and $665 thousand, respectively.

Activity in the allowance for loan loss for the years ended December 31, 2020 and 2019 was as follows:

	2020	2019
Beginning balance	$ 6,380	$ 4,909
Provision	2,391	2,538
Net charge-offs		
Single Family	(1,385)	(946)
Multifamily/Business	-	(121)
Ending balance	$ 7,386	$ 6,380

The Authority services loans that it securitizes as Ginnie Mae mortgage-backed securities and sells. As of December 31, 2020 and 2019, these loans totaled $5.9 billion and $4.5 billion, respectively.

The Authority services loans on the behalf of others, primarily for Fannie Mae and Freddie Mac, which are not reported on the Statement of Net Position. As of December 31, 2020 and 2019, these outstanding loan balances were $1.5 billion and $1.8 billion, respectively.

(tabular dollar amounts are in thousands)

The Authority has granted terms and interest rate concessions to debtors, which are considered troubled debt restructurings, as of December 31, 2020 and 2019, as summarized below:

Single Family Program Loans:	**2020**	**2019**
Aggregate recorded balance	$ 40,761	$ 41,162
Number of loans	337	348
Gross interest revenue if receivables had been current	$ 2,240	$ 2,301
Interest revenue included in changes in net position	$ 1,434	$ 1,562

Multifamily/Business Program Loans:	**2020**	**2019**
Aggregate recorded balance	$ 11,962	$ 9,301
Number of loans	10	11
Gross interest revenue if receivables had been current	$ 598	$ 863
Interest revenue included in changes in net position	$ 370	$ 451

(tabular dollar amounts are in thousands)

(4) Capital Assets

Capital asset activity for the year ended December 31, 2020 was as follows:

	Beginning Balance	Additions	Reductions	Ending Balance
Nondepreciable capital assets:				
Land	$ 1,573	$ -	$ -	$ 1,573
Construction in progress	210	553	(406)	357
Total nondepreciable capital assets	1,783	553	(406)	1,930
Depreciable capital assets:				
Cost:				
Computer equipment/software	8,883	-	-	8,883
Furniture and equipment	1,965	392	-	2,357
Buildings and related improvements	13,722	14	-	13,736
Total depreciable capital assets	24,570	406	-	24,976
Less accumulated depreciation:				
Computer equipment/software	(8,335)	(181)	-	(8,516)
Furniture and equipment	(441)	(239)	-	(680)
Buildings and related improvements	(4,614)	(493)	-	(5,107)
Total accumulated depreciation	(13,390)	(913)	-	(14,303)
Total depreciable capital assets, net	11,180	(507)	-	10,673
Total capital assets, net	$ 12,963	$ 46	$ (406)	$ 12,603

(tabular dollar amounts are in thousands)

Capital asset activity for the year ended December 31, 2019 was as follows:

	Beginning Balance	Additions	Reductions	Ending Balance
Nondepreciable capital assets:				
Land	$ 1,573	$ -	$ -	$ 1,573
Construction in progress	295	82	(167)	210
Total nondepreciable capital assets	1,868	82	(167)	1,783
Depreciable capital assets:				
Cost:				
Computer equipment/software	8,883	-	-	8,883
Furniture and equipment	1,944	167	(146)	1,965
Buildings and related improvements	13,722	-	-	13,722
Total depreciable capital assets	24,549	167	(146)	24,570
Less accumulated depreciation:				
Computer equipment/software	(8,093)	(242)	-	(8,335)
Furniture and equipment	(395)	(192)	146	(441)
Buildings and related improvements	(4,042)	(572)	-	(4,614)
Total accumulated depreciation	(12,530)	(1,006)	146	(13,390)
Total depreciable capital assets, net	12,019	(839)	-	11,180
Total capital assets, net	$ 13,887	$ (757)	$ (167)	$ 12,963

(5) Short-Term Debt

The Authority has an agreement with the Federal Home Loan Bank (FHLB) for collateralized borrowings in an amount not to exceed the lending limit internally established by the FHLB, which is 40% of the Authority's total assets, or $1.4 billion. Amounts drawn under the agreement bear interest at the same rates charged by the FHLB to its member banks and are collateralized by certain mortgage loans and investments. As of December 31, 2020 and 2019, the Authority had $152.9 million and $113.0 million of short-term debt outstanding with the FHLB, respectively.

The Authority also has a revolving, unsecured, commercial bank line of credit agreement for borrowings of up to $150.0 million. Amounts drawn under the agreement bear interest fixed at a spread above the one week or one-month LIBOR rate. This line of credit agreement terminates on March 31, 2021. The Authority pays an unused line fee, payable in arrears on the first business day after each calendar quarter. The fee is based upon the average daily unused amount of the line of credit computed on the basis of a 360-day year. As of December 31, 2020 and 2019, there was an outstanding balance of $25.0 million and $65.0 million, respectively.

Borrowings under these agreements are used to support the Authority's various lending programs, to purchase loans to be sold through the issuance and sale of Ginnie Mae and Fannie Mae securities and activities related to the Authority's private activity bond volume cap preservation program. There are no commitment fees associated with these agreements.

(tabular dollar amounts are in thousands)

Short-term debt activity for the years ended December 31, 2020 and 2019 was as follows:

	2020	2019
Beginning balance	$ 178,000	$ 237,500
Additions	9,913,371	9,705,771
Reductions	(9,913,480)	(9,765,271)
Ending balance	$ 177,891	$ 178,000

(6) Bonds, Notes Payable and Other Liabilities

The Authority issues bonds and notes payable to finance its lending programs. Proceeds from long-term debt of the Single Family and Multifamily/Business bonds are used for funding of single family, multifamily and business loans. Long-term debt of the General Program (including notes payable) is used to finance single family and business loans. The aggregate principal amounts of bonds and notes payable outstanding as of December 31, 2020 and 2019 are shown in the table on the following pages. Interest is payable semiannually unless otherwise noted. Interest rates on variable rate debt reset on a weekly or monthly basis. At December 31, 2020, these rates ranged from 0.08% to 0.18%. At December 31, 2019, these rates ranged from 1.60% to 1.80%.

(tabular dollar amounts are in thousands)

Outstanding Bonds at December 31, 2020 and 2019:

Descripton and due date		Interest rate (%)	2020	2019
Bonds payable:				
General Fund (prior to 2011, all General Fund bonds carry the Authority's general obligation pledge):				
Multifamily/Business Finance (bonds in this section are Private Placement bonds):				
Guaranteed Loan Participation Purchase Bonds: *(* principal and interest payable monthly)*				
2011 Series A*	2020 - 2020	2.92	$ -	$ 232
Total Guaranteed Loan Participation Purchase Bonds			-	232
Taxable Rental Project Revenue Bonds: *(* principal and interest payable monthly)*				
2000 Series A	2020 - 2020	6.15	-	333
2002 Series AV*	2021 - 2022	5.55	193	310
2004 Series A*	2020 - 2020	4.90	-	1,987
Total Taxable Rental Project Revenue Bonds			193	2,630
Total Multifamily/Business Finance			193	2,862
Total General Fund			193	2,862
Single Family Fund:				
Single Family Mortgage Bonds:				
2001 Series AA	2021 - 2041	Variable	42,100	47,255
2002 Series A	2021 - 2021	Variable	1,300	2,850
2002 Series B	2021 - 2021	Variable	5,075	9,930
2002 Series C	2020 - 2020	Variable	-	9,880
2011 Series AA	2021 - 2028	4.10 - 5.00	855	2,360
2013 Series AA	2021 - 2041	2.80	8,160	10,890
2014 Series A	2021 - 2027	2.71 - 3.53	12,120	15,950
2015 Series A	2021 - 2031	2.26 - 4.00	23,665	32,525
2015 Series B	2021 - 2025	2.42 - 3.27	6,155	8,040
2017 Series A	2021 - 2047	3.00	27,578	38,163
2017 Series B	2021 - 2044	Variable and 3.05	11,755	14,045
2017 Series AA	2021 - 2047	3.03	26,184	38,717
2017 Series CDE	2021 - 2048	Variable and 1.40 - 4.00	47,015	64,025
2018 Series AA	2021 - 2048	3.70	46,644	62,246
2018 Series AB	2021 - 2048	Variable and 2.30 - 4.00	57,835	78,595
2018 Series C	2021 - 2048	1.95 - 4.25	63,990	90,095
2018 Series D	2021 - 2029	3.00 - 3.81	25,705	31,585
2018 Series BB	2021 - 2048	4.20 - 4.50	59,304	78,611
2019 Series ABC	2021 - 2049	Variable and 2.60 - 4.75	72,480	100,345
2019 Series DE	2021 - 2049	Variable and 1.75 - 4.25	116,320	139,795
2019 Series FG	2021 - 2049	Variable and 1.70 - 4.25	73,910	88,895
2019 Series HI	2021 - 2049	Variable and 2.13 - 4.25	95,440	99,815
2019 Series AA	2021 - 2049	3.18	53,278	58,902
2019 Series BB	2021 - 2049	2.85 - 3.60	64,837	74,576
2019 Series JKL	2021 - 2050	Variable and 1.55 - 4.00	121,100	125,650
2019 Series CC	2021 - 2050	2.91	62,664	65,000
2020 Series ABC	2021 - 2033	Variable and 1.25 - 3.75	123,270	-
2020 Series AA	2021 - 2050	2.35	54,010	-
2020 Series BB	2021 - 2050	2.60	44,334	-
2020 Series DEF	2021 - 2050	Variable and 0.45 - 3.50	111,235	-
2020 Series GHI	2021 - 2050	Variable and 0.30 - 3.00	129,000	-
Total Single Family Mortgage Bonds			1,587,318	1,388,740
Total Single Family Fund			1,587,318	1,388,740

Table continued on following page.

(tabular dollar amounts are in thousands)

Descripton and due date		Interest rate (%)	2020	2019
Multifamily/Business Fund:				
Multifamily/Project Bonds:				
2000 Series A	2021 - 2030	Variable	2,335	3,425
2005 Series B	2020 - 2020	Variable	-	2,775
2006 Series A	2020 - 2020	Variable	-	13,370
2007 Series B	2021 - 2038	Variable	44,350	44,405
2008 Series A	2021 - 2029	Variable	10,955	11,455
2008 Series B	2021 - 2052	Variable	143,890	147,740
2009 Series A	2021 - 2041	Variable	7,775	8,380
2012 Series A	2021 - 2051	2.75 - 4.50	9,585	9,745
2012 Series B	2021 - 2054	2.55 - 4.20	16,105	16,345
2013 Series A	2021 - 2023	Variable	1,025	1,330
2013 Series I	2021 - 2044	3.20	8,411	10,849
2016 Series A	2021 - 2041	2.10 - 4.00	10,375	10,710
2016 Series I	2021 - 2056	3.45	5,013	5,073
2016 Series II	2021 - 2056	3.00	8,906	9,018
2016 Series III	2021 - 2052	3.10	3,340	3,393
2016 Series IV	2021 - 2056	3.13	6,337	6,417
2016 Series V	2021 - 2045	3.40	25,559	38,949
2017 Series I	2021 - 2057	3.85	9,983	10,083
2017 Series II	2021 - 2057	3.76	6,463	6,529
2017 Series III	2021 - 2057	3.75	9,292	9,385
2017 Series IV	2021 - 2057	3.64	25,551	25,824
2018 Series A	2021 - 2040	Variable and 2.75 - 3.90	57,510	74,610
2019 Series A	2021 - 2040	1.35 - 3.00	27,760	28,125
2019 Series B	2021 - 2059	1.35 - 3.50	42,325	42,325
2019 Series C	2021 - 2051	Variable	40,000	40,000
2020 Series A	2021 - 2057	1.55 - 1.65	39,375	-
2020 Series B	2021 - 2043	0.50 - 2.35	35,025	-
2020 Series C	2021 - 2041	0.45 - 2.25	12,640	-
2020 Series D	2021 - 2050	Variable and 0.51 - 2.31	60,440	-
2020 Series E	2021 - 2061	0.35 - 2.65	24,560	-
Total Multifamily/Project Bonds			694,885	580,260
Total Multifamily/Business Fund			694,885	580,260
Total bonds payable			2,282,396	1,971,862
Premiums classified as bonds payable				
Bond premiums (unamortized)			39,217	29,539
Bonds payable			2,321,613	2,001,401
Notes payable			668	725
Bonds and notes payable			$ 2,322,281	$ 2,002,126
Current:				
Bonds payable			$ 305,582	$ 46,438
Notes payable			57	57
Noncurrent:				
Bonds and notes payable			2,016,642	1,955,631
Total			$ 2,322,281	$ 2,002,126

(tabular dollar amounts are in thousands)

A breakdown of bonds payable as of December 31, 2020 and 2019, by fixed and variable interest rates, follows in the table below. Certain of the Authority's variable rate debt has been hedged by entering into pay fixed/receive variable rate interest rate swap agreements as further described in note 8. Such debt is referred to in the table as synthetic fixed rate debt.

Description	2020	2019
Fixed rate debt	$ 1,566,811	$ 1,363,297
Synthetic fixed rate debt	644,255	536,360
Unhedged variable rate debt	71,330	72,205
Total	$ 2,282,396	$ 1,971,862

Also included in the table of bonds and notes payable outstanding are certain Single Family and Multifamily/Project bonds, which carry the Authority's general obligation pledge. These general obligation bonds are presented in the following table as of December 31, 2020 and 2019:

Description	2020	2019
General Fund Program Bonds	$ 193	$ 2,862
Single Family/Mortgage Bonds, Class III	34,455	36,365
Multifamily/Project Bonds, Class I	40,935	54,305
Multifamily/Project Bonds, Class II	10,955	11,455
Total	$ 86,538	$ 104,987

(tabular dollar amounts are in thousands)

Standby Purchase Agreements provide liquidity support on variable rate bonds that are remarketed weekly. The liquidity/commitment fees vary by agreement and are based on a percentage of the outstanding bond balance, payable monthly or quarterly. If the liquidity agreements expire or the renewal or replacement efforts are unsuccessful for the liquidity agreements and the bonds are mandatorily redeemed, the bond's principal portion of the debt service requirements would increase by the respective amounts for the respective years as presented in the following schedule of providers and maturities as of December 31, 2020. During 2020, the Authority did not renew or replace any expiring liquidity facilities. Subsequent to year-end, the Authority renewed $76.0 million of expiring liquidity facilities. During 2019, the Authority renewed or replaced expiring liquidity facilities of $97.8 million. Liquidity fees for the years ended December 31, 2020 and 2019 were $2.3 million and $2.0 million, respectively.

A schedule of providers and maturities is presented below, as of December 31, 2020:

Liquidity Expiration	Bank of America (1)	FHLB (2)	Royal Bank of Canada (3)	Sumitomo MBC (4)	Barclays Capital (5)	Grand Total
2021	$ 40,325	$ 189,265	$ -	$ 31,850	$ -	$ 261,440
2022	39,165	81,410	-	-	-	120,575
2023	-	113,320	-	-	46,805	160,125
2024	-	75,955	59,800	-	-	135,755
2025	-	-	37,690	-	-	37,690
Total	$ 79,490	$ 459,950	$ 97,490	$ 31,850	$ 46,805	$ 715,585

The following provides the terms of the debt service requirements that would result if the SBPA commitments were to be exercised (bank bond rate, accelerated payment schedule, and lien):

(1) (a) Bank Rate: for the first 90 days following the purchase date, the "Base Rate," which equals the highest of (i) the Federal Funds Rate plus 2.00%, (ii) the Prime Rate plus 1.00%, (iii) the LIBOR Rate plus 2.0%, and (iv) 7.50%; then the Base Rate plus 1.00%.
(b) Term out provisions: repayments due 366 days following the purchase date and the first business day of every sixth month thereafter to the fifth anniversary of the purchase date with the first such payment being equal to 2/10ths of the outstanding principal amount of such Bank Bonds and each subsequent being equal to 1/10th of such amount. Class III lien/General Obligation.

(2) (a) Bank Rate: One-Month LIBOR plus 2.00%.
(b) Term out provisions: repayments due 366 days following the Purchase date in equal semiannual installments until fifth anniversary of the purchase date.

(3) (a) Bank Rate: for the first 366 days following the purchase date Daily LIBOR plus 3.00%; then for the period 367 days and higher following the purchase date, the "Base Rate", which equals the highest of (i) the Prime Rate plus 2.50%, (ii) the Federal Funds Rate plus 3.00%, and (iii) 10.00%.
(b) Term out provisions: repayments due on the first business day of February, May, August or November on or following 366 days following purchase date and thereafter quarterly on each such date in equal installments to the third anniversary of such purchase date. Class III lien/General Obligation.

(4) (a) Bank Rate: for the first 59 days following the purchase date, the "Base Rate," which equals the highest of (i) the Prime Rate plus 2.00%, (ii) the Federal Funds Rate plus 3.00%, (iii) the sum of the One Month LIBOR Rate plus 3.00%, (iv) the SIFMA Rate plus 3.00%, and (v) 6.50%; then for the period 60-90 days following the purchase date, the Base Rate plus 1.00%; then the Base Rate plus 2.00%.
(b) Term out provisions: repayments due 366 days following purchase date and each three-month anniversary thereafter in equal installments to the fifth anniversary of such purchase date.

(5) (a) Bank Rate: for the first 60 days following the purchase date, the "Base Rate," which equals the highest of (i) the Fed Funds Rate plus 2.50%, (ii) the Prime Rate plus 2.50%, (iii) 150% of the yield on actively traded 30-year United State Treasury Bonds, and (iv) 8.00%; then for the period 61-120 days following the purchase date, the Base Rate plus 1.00%; then the Base Rate plus 2.00%.
(b) Term out provisions: repayments due 366 days following purchase date and each six-month anniversary thereafter in equal installments to the third anniversary of such purchase date. Class III lien/General Obligation.

(tabular dollar amounts are in thousands)

The following table presents the detail of bonds, notes payable and certain other liabilities that include current and noncurrent activity for the year ended December 31, 2020:

Description	Beginning Balance	Additions	Reductions	Ending Balance	Current	Noncurrent
Bonds payable	$ 1,971,862	$ 640,806	$ (330,272)	$ 2,282,396	$ 300,420	$ 1,981,976
Bond premiums - unamortized	29,539	11,250	(1,572)	39,217	5,162	34,055
Total bonds payable	2,001,401	652,056	(331,844)	2,321,613	305,582	2,016,031
Notes payable	725	-	(57)	668	57	611
Unearned revenue	6,100	1,964	(657)	7,407	494	6,913
Other liabilities	36,299	7,622	(927)	42,994	600	42,394
Total other liabilities	42,399	9,586	(1,584)	50,401	1,094	49,307
Total	$ 2,044,525	$ 661,642	$ (333,485)	$ 2,372,682	$ 306,733	$ 2,065,949

The following table presents the detail of bonds, notes payable and certain other liabilities that include current and noncurrent activity for the year ended December 31, 2019

Description	Beginning Balance	Additions	Reductions	Ending Balance	Current	Noncurrent
Bonds payable	$ 1,345,313	$ 870,864	$ (244,315)	$ 1,971,862	$ 45,753	$ 1,926,109
Bond premiums - unamortized	13,140	17,284	(885)	29,539	685	28,854
Total bonds payable	1,358,453	888,148	(245,200)	2,001,401	46,438	1,954,963
Notes payable	863	-	(138)	725	57	668
Unearned revenue	5,181	1,496	(577)	6,100	407	5,693
Other liabilities	37,021	-	(722)	36,299	484	35,815
Total other liabilities	42,202	1,496	(1,299)	42,399	891	41,508
Total	$ 1,401,518	$ 889,644	$ (246,637)	$ 2,044,525	$ 47,386	$ 1,997,139

(tabular dollar amounts are in thousands)

Bonds and notes payable sinking fund installments and contractual maturities subsequent to December 31, 2020, using rates in effect as of December 31, 2020, are as follows:

Years Ending	General Fund		Single Family		Multifamily / Business		Notes Payable	
December 31,	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
2021	$ -	$ 11	$ 103,675	$ 38,729	$ 196,745	$ 10,571	$ 57	$ 7
2022	193	10	31,235	38,044	38,110	9,935	58	6
2023	-	-	30,770	37,407	42,615	9,241	58	6
2024	-	-	31,175	36,734	9,585	8,802	59	5
2025	-	-	32,070	36,015	9,670	8,589	59	4
2026 - 2030	-	-	149,980	168,569	51,050	40,079	129	16
2031 - 2035	-	-	157,645	150,898	34,860	36,517	136	10
2036 - 2040	-	-	171,695	137,686	52,700	33,422	112	3
2041 - 2045	-	-	223,340	119,824	76,330	27,492	-	-
2046 - 2050	-	-	655,734	63,133	44,905	18,556	-	-
2051 - 2055	-	-	-	-	56,965	15,464	-	-
2056 - 2060	-	-	-	-	80,814	4,102	-	-
2061 - 2061	-	-	-	-	535	7	-	-
Total	$ 193	$ 21	$ 1,587,319	$ 827,039	$ 694,884	$ 222,777	$ 668	$ 57

(7) Conduit Debt Obligation

The Authority has issued certain conduit bonds, the proceeds of which were made available to various developers and corporations for rental housing and commercial purposes. The bonds are payable solely from amounts received by the trustees. The faith and credit of the Authority is not pledged for the payment of the principal or interest on the bonds. Accordingly, these obligations are excluded from the Authority's financial statements.

As of December 31, 2020 and 2019, the aggregate principal amount of conduit debt outstanding totaled $1.2 billion and $1.0 billion, respectively.

(8) Derivative Instruments

The Authority reports derivative instruments at fair value. The fair value of all derivatives is reported on the Statement of Net Position as a derivative instrument at the end of the year. If an interest rate hedge is considered ineffective, it is referred to as an investment derivative and the change in fair value is reported on the Statement of Revenues, Expenses and Changes in Net Position as investment derivative activity loss. The annual changes in the fair value of effective hedging derivative instruments are reported as deferred inflows and outflows, as appropriate, on the Statement of Net Position.

Swaps Transactions – The Authority has entered into pay fixed, receive variable interest rate swaps in order to (1) provide lower cost fixed rate financing for its production needs through synthetic fixed rate structures and (2) utilize synthetic fixed rate structures with refunding bonds in order to generate cash flow savings. The objective of the swaps is to hedge interest rate risk.

The fair values take into consideration the prevailing interest rate environment and the specific terms and conditions of each swap. All fair values were estimated using the zero-coupon discounting method. This method calculates the future payments required by the swap, assuming that the current forward rates implied by the yield curve are the market's best estimate of future spot interest rates. These payments are then discounted using the spot rates implied by the current yield curve for hypothetical zero coupon rate bonds due on the date of each future net settlement payment on the swaps.

(tabular dollar amounts are in thousands)

The Authority's interest rate swaps, which were used to hedge interest rate risk, are generally considered to be hedging derivative instruments under GASB No. 53. However, certain interest rate swaps have been deemed ineffective and are classified as investment derivative instruments. Deemed termination activity for the year ended December 31, 2020 was as follows:

Deemed Terminations	**Amount**	
June 18	$	190
Total deemed terminations	$	190

On February 20, 2020, the Authority entered into an interest rate swap agreement totaling $37.7 million. The swap is considered to be an effective interest rate hedge of certain single family bonds.

On April 16, 2020 the Authority entered into a forward starting interest rate swap agreement totaling $10.4 million that will be effective April 1, 2023. The swap is considered an effective interest rate hedge for bonds on certain multifamily bonds issued on April 23, 2020 in a fixed rate mode and converting to variable rate mode on April 1, 2023. The forward starting swap was identified as a qualified hedge.

On May 29, 2020, the Authority entered into a forward starting interest rate swap agreement effective April 1, 2021 with an initial notional value of $10.5 million and will accrete up to a notional value of $35.1 million on January 10, 2022. It will replace portions of existing interest rate swap agreements that are considered effective interest rate hedges of certain multifamily bonds. In conjunction with entering into the forward starting swap, notice of par optional terminations effective April 1, 2022 and October 1, 2022 was given to the counterparties of the swaps to be replaced. The forward starting swap was identified as a qualified hedge.

On July 30, 2020, the Authority entered into an interest rate swap agreement with an initial notional value of $32.8 million and will accrete up to a notional value of $37.2 million on May 1, 2022. The swap is considered to be an effective interest rate hedge of certain single family bonds.

On October 1, 2020 the Authority entered into an interest rate swap agreement with an initial notional value of $16.0 million and will accrete up to a notional value of $29.4 million on April 1, 2024. It will replace portions of two interest rate swap agreements that are considered to be effective interest rate hedge of certain multifamily bonds. The swap is considered to be an effective interest rate hedge on certain multifamily bonds. In conjunction with entering into the interest rate swap agreement, notice of par optional terminations effective April 1, 2021 and October 1, 2021 was given to the counterparty of the swaps to be replaced.

On October 29, 2020, the Authority entered into an interest rate swap agreement totaling $41.7 million. The swap is considered to be an effective interest rate hedge of certain single family bonds.

(tabular dollar amounts are in thousands)

Deemed termination activity for the year ended December 31, 2019 was as follows:

Deemed Terminations	Amount
May 01	$ 2,060
Total deemed terminations	$ 2,060

On May 1, 2019, the Authority entered into an interest rate swap agreement totaling $30.0 million. The swap is considered to be an effective interest rate hedge of certain single family bonds.

On May 1, 2019, the Authority entered into an interest rate swap agreement totaling $50.0 million. The swap is considered to be an effective interest rate hedge of certain single family bonds.

On July 15, 2019, the Authority entered into an interest rate swap agreement totaling $26.8 million. The swap is considered to be an effective interest rate hedge of certain single family bonds.

On July 23, 2019, the Authority entered into an interest rate swap agreement totaling $30.0 million. The swap is considered to be an effective interest rate hedge of certain single family bonds.

On October 1, 2019, the Authority entered into two separate interest rate swap agreements totaling $40.0 million. The swaps are considered to be effective interest rate hedges of certain multi-family bonds.

On November 20, 2019, the Authority entered into an interest rate swap agreement totaling $39.2 million. The swap is considered to be an effective interest rate hedge of certain single family bonds.

A summary of interest rate swaps for the years ended December 31, 2020 and 2019 was as follows:

Summary of Interest Rate Swaps	2020 Fair Value	2019 Fair Value
Par optional termination right	$ 24,932	$ 11,596
Trigger	5,035	4,111
Plain	85,247	67,035
Total fair value	$ 115,214	$ 82,742

Trigger: The variable rate received on these swaps is 68% of the one-month LIBOR, if LIBOR is equal to or greater than 3.5%. The variable rate received on these swaps is SIFMA plus a spread if the one-month LIBOR is less than 3.5%. See further discussion in the basis risk section below.

Par Optional Termination Right: Certain swaps contain a cancellation clause that provides the Authority the option to cancel a certain amount of the swaps on certain dates. The Authority may cancel the optional termination amount for no payment (callable at par). The optional termination dates coincide with the debt service dates on the associated hedged bonds payable. These dates and amounts are provided in the table below.

(tabular dollar amounts are in thousands)

Detail of Outstanding Interest Rate Swaps **–** The key terms, including the fair values and counterparty credit ratings of the outstanding swaps as of December 31, 2020 and 2019, are shown in the table below. Except as discussed under amortization risk below, the Authority's swap agreements contain scheduled reductions to outstanding notional amounts that are expected to approximately follow scheduled or anticipated reductions in the associated bonds payable. Based on the standard swap agreement, payments are settled on a net basis.

The Authority enters into master netting arrangements with each of its swap counterparties. All of the agreements provide for the netting of the value of assets and liability positions of all transactions with the respective counterparty. There are no other significant transactions with these counterparties outside of these swap agreements, such that the aggregate amount of liabilities included in the master netting arrangements is equal to the net fair value of the swaps.

Outstanding Swaps at December 31, 2020 and 2019:

Swap Series	Current Notional Amount	Effective Date	Termination Date	Fixed Rate Paid	Variable Rate Received *	Embedded Options	Optional Termination Date, at Par	Optional Termination Amount	Counterparty Rating S&P/Moody's	2020 Fair Value **	Change in Fair Value	2019 Fair Value **
Single Family:												
Investment derivatives (includes overhedged portion of interest rate swaps):												
2002A-3 ****	110	12/4/2008	11/1/2021	4.7490%	Trigger, SIFMA + .05% or 68% LIBOR				A / A1	$ 3	$ (5)	$ 8
2002C-3 ****	4,105	12/4/2008	5/1/2022	4.4220%	Trigger, SIFMA + .15% or 68% LIBOR				A / A1	146	(111)	257
2012A-1 ****	3,605	12/2/2008	11/1/2021	4.1600%	Trigger, SIFMA + .05% or 68% LIBOR				A / A1	19	51	(32)
Total	7,820									168	(65)	233
Hedging derivatives:												
2001AA-2 ****	31,850	12/4/2008	5/1/2031	5.5260%	Trigger, SIFMA + .05% or 68% LIBOR				A / A1	4,798	1,280	3,518
2002A-3 ****	1,300	12/4/2008	11/1/2021	4.7490%	Trigger, SIFMA + .05% or 68% LIBOR				A / A1	20	(19)	39
2002B-3 ****	5,075	12/4/2008	11/1/2021	4.5060%	Trigger, SIFMA + .05% or 68% LIBOR				A / A1	84	(79)	163
2002C-3 ****	6,325	12/4/2008	5/1/2022	4.4220%	Trigger, SIFMA + .15% or 68% LIBOR				A / A1	(35)	(193)	158
2012A-2 (SPV)	25,000	5/1/2018	5/1/2038	2.3230%	LIBOR * 70%	***	11/1/2021	2,660	A+ / Aa2	1,109	236	873
2018B-2	30,000	5/1/2019	11/1/2041	2.6000%	LIBOR * 70%	***	5/1/2022	1,725	AA- / Aa2	2,478	793	1,685
2019B-2 (A)	10,000	1/3/2019	5/1/2028	2.9675%	LIBOR				AA- / Aa2	1,728	721	1,007
2019B-2 (B)	10,000	1/3/2019	5/1/2042	3.7575%	LIBOR	***	5/1/2025	10,000	AA- / Aa2	1,449	455	994
2019D	50,000	5/1/2019	11/1/2037	2.4300%	LIBOR * 70%	***	11/1/2022	6,075	A+ / Aa2	2,627	439	2,188
2019G-2	26,805	7/15/2019	5/1/2043	3.2275%	LIBOR	***	11/1/2022	1,775	AA- / Aa2	3,760	1,645	2,115
2019I-2	30,000	7/23/2019	11/1/2040	2.5800%	LIBOR	***	5/1/2023	740	AA- / Aa2	2,972	2,159	813
2019L-2	39,165	11/20/2019	5/1/2041	2.2300%	LIBOR	***	11/1/2023	35,265	AA- / Aa2	2,797	3,072	(275)
2020C	37,690	2/20/2020	5/1/2041	2.2480%	LIBOR	***	5/1/2024	2,690	A+ / Aa2	3,025	3,025	-
2020F-2	32,785	7/30/2020	5/1/2041	1.2245%	LIBOR	***	5/1/2024	33,505	AA- / Aa2	(649)	(649)	-
2020I-2	41,690	10/29/2020	5/1/2041	1.3510%	LIBOR	***	11/1/2024	2,895	A+ / Aa2	(521)	(521)	-
Total	377,685									25,642	12,364	13,278
Total Single Family	385,505									25,810	12,299	13,511

Table continued on following page.

(tabular dollar amounts are in thousands)

Swap Series	Current Notional Amount	Effective Date	Termination Date	Fixed Rate Paid	Variable Rate Received *	Embedded Options	Optional Termination Date, at Par	Optional Termination Amount	Counterparty Rating S&P/Moody's	2020 Fair Value **	Change in Fair Value	2019 Fair Value **
Multifamily:												
Investment derivatives (includes overhedged portion of interest rate swaps):												
2002A-1 ****	2,255	11/21/2008	10/1/2022	5.1000%	SIFMA + .15%				A / A1	111	(80)	191
2005B-2 (B)	2,435	9/1/2006	10/1/2038	4.5270%	SIFMA + .15%	***	10/1/2021	2,324	A+ / Aa2	77	(60)	137
2007B-2 (D) ****	4,070	12/3/2008	4/1/2028	4.6510%	SIFMA + .15%	***	4/1/2023	3,835	A / A1	388	(95)	483
2009A-1 ****	4,460	6/24/2009	10/1/2041	4.7900%	SIFMA + .05%	***	4/1/2024	3,809	A / A1	660	30	630
2013A ****	7,155	11/21/2008	10/1/2023	6.0350%	SIFMA + .05%				A / A1	646	(269)	915
Total	20,375									1,882	(474)	2,356
Hedging derivatives:												
2000A-1 ****	-	11/21/2008	10/1/2020	5.2350%	SIFMA + .05%				A / A1	-	(16)	16
2005B-2 (B)	-	9/1/2006	10/1/2038	4.5270%	SIFMA + .15%	***			A+ / Aa2	-	(108)	108
2006A-1 ****	4,205	12/3/2008	4/1/2027	5.7100%	LIBOR + .05%	***			A / A1	10	453	(443)
2006A-1 (F)	8,265	12/1/2006	10/1/2036	5.3420%	LIBOR + .05%	***	4/1/2021	8,040	A+ / Aa2	(97)	(460)	363
2007B-1 ****	7,570	12/3/2008	4/1/2038	5.6400%	LIBOR + .05%	***	4/1/2022	all remaining	A / A1	297	356	(59)
2007B-1 (G)	6,510	10/1/2007	4/1/2028	5.2200%	LIBOR + .05%	***	10/1/2022	6,190	A+ / Aa2	561	(167)	728
2007B-1 (replacement)	10,525	4/1/2021	10/1/2038	5.1300%	LIBOR + .05%	***	4/1/2027	15,195	AA- / A2	(387)	(387)	-
2008B (a) ****	100,845	12/3/2008	10/1/2044	5.1722%	LIBOR				AA- / A2	55,392	11,376	44,016
2008B (b) ****	42,470	12/3/2008	3/1/2047	5.2071%	LIBOR				AA- / A2	27,708	5,737	21,971
2009A-1 ****	7,775	6/24/2009	10/1/2041	4.7900%	SIFMA + .05%	***	4/1/2024	7,306	A / A1	415	134	281
2013A ****	1,020	11/21/2008	10/1/2023	6.0350%	SIFMA + .05%				A / A1	(348)	290	(638)
2018A-2	29,675	4/1/2018	4/1/2040	3.1450%	LIBOR	***	4/1/2025	22,185	AA- / Aa2	3,114	1,218	1,896
2019C (A)	30,000	10/1/2019	10/1/2034	1.6000%	LIBOR	***	10/1/2026	26,500	A+ / Aa2	1,291	2,267	(976)
2019C (B)	10,000	10/1/2019	10/1/2039	1.8510%	LIBOR	***	10/1/2028	8,685	A+ / Aa2	440	828	(388)
2020A	10,375	4/1/2023	4/1/2050	1.8510%	LIBOR	***	10/1/2028	8,210	A+ / Aa2	(230)	(230)	-
2020D-2	2,255	9/1/2006	10/1/2038	4.5270%	SIFMA + .15%	***	10/1/2021	2,176	A+ / Aa2	(24)	(24)	-
2020D-2	15,980	10/1/2020	4/1/2050	1.3600%	LIBOR	***	10/1/2029	13,020	A+ / Aa2	(620)	(620)	-
Total	287,470									87,522	20,647	66,875
Total Multifamily	307,845									89,404	20,173	69,231
Total	$693,350									$ 115,214	$ 32,472	$ 82,742

(*) SIFMA is the Securities Industry Financial Markets Association Municipal Swap Index. LIBOR is the London Interbank Offered Rate.
(**) All fair values include the effect of any related embedded option.
(***) Par optional termination right.
(****) Swaps for which cash premiums were received in the amount of $73.4 million in 2008. The outstanding unamortized balance of the premium is reported on the Statement of Net Position as a component of hybrid instrument borrowings.
(SPV) Counterparty operates as a special-purpose vehicle.

(tabular dollar amounts are in thousands)

Risk Disclosure

Credit Risk: All of the Authority's swaps rely upon the performance of the third parties who serve as swap counterparties, and as a result, the Authority is exposed to credit risk – that is, the risk that a swap counterparty fails to perform according to its contractual obligations. The appropriate measurement of this risk at the reporting date is the fair value of the swaps, as shown in the column labeled "Fair Value" in the outstanding swaps table above. The Authority is exposed to credit risk in the amount of any positive net fair value exposure to each counterparty. As of December 31, 2020 and 2019, the Authority was exposed to minimal credit risk to any of its counterparties. To mitigate credit risk, the Authority maintains strict credit standards for swap counterparties. All swap counterparties must be rated in the AA/Aa or higher category by either Standard & Poor's (S&P) or Moody's Investors Service (Moody's), respectively, at the time the contract is executed. Since the time of contract execution, certain counterparty ratings were lowered due to the national recession.

At December 31, 2020, the Authority had executed 33 swap transactions with five counterparties with concentrations and ratings (Standard and Poor's/ Moody's Investors Service) as shown in the following table:

Swap Count	Notional Amount	Concentration	Counterparty Rating (S&P / Moody's)
11	$ 90,880	13.1%	A / A1
11	240,200	34.6%	AA- / Aa2
11	362,270	52.3%	AA- / Aa2
33	$ 693,350	100.0%	

At December 31, 2019, the Authority had executed 28 swap transactions with five counterparties with concentrations and ratings (Standard and Poor's/ Moody's Investors Service) as shown in the following table:

Swap Count	Notional Amount	Concentration	Counterparty Rating (S&P / Moody's)
12	$ 114,545	20.0%	A / A2
7	135,195	23.6%	A+ / Aa2
4	78,330	13.7%	AA- / Aa2
5	245,160	42.7%	AA- / A2
28	$ 573,230	100.0%	

Interest Rate Risk: The Authority is exposed to interest rate risk in that as the variable rates on the swaps agreements decrease, the Authority's net payment on the swap agreement would increase.

Basis Risk: The Authority is exposed to basis risk when the variable interest rate paid to the holders of its variable rate demand obligations (VRDOs) is not equivalent to the variable interest rate received from its counterparties on the related swap agreements. When exposed to basis risk, the net interest expense incurred on the combination of the swap agreement and the associated variable rate debt may be higher or lower than anticipated.

The Authority's tax-exempt variable rate bond interest payments are substantially equivalent to the SIFMA rate (plus a trading spread). Certain tax-exempt swaps, as indicated in the table above, contain a trigger feature in which the Authority receives a rate indexed on SIFMA should LIBOR be less than a predetermined level (the trigger level, 3.5%), or a rate pegged at a percentage of LIBOR should LIBOR be equal to or greater than the predetermined trigger level. For these swaps, the Authority would be negatively exposed to basis risk during the time period it is receiving the rate based on a percentage of LIBOR should the relationship between LIBOR and SIFMA converge.

The Authority's taxable variable rate bond interest payments are substantially equivalent to LIBOR (plus a trading spread) and are reset on a weekly basis. The Authority is receiving one-month LIBOR (plus a trading spread) or LIBOR flat for all of its taxable swaps and therefore is only exposed to basis risk to the extent that the Authority's bonds diverge from their historic trading relationship with LIBOR.

Termination Risk: The Authority's swap agreements do not contain any out-of-the-ordinary termination events that would expose it to significant termination risk. In keeping with market standards, the Authority or the counterparty may terminate each swap if the other party fails to perform under the terms of the contract. In addition, the swap documents allow either party to terminate in the event of a significant loss of creditworthiness. If at the time of the termination a swap has a negative value, the Authority would be liable to the counterparty for a payment equal to the fair value of such swap.

There are certain termination provisions relevant to the Authority's counterparties operating as special-purpose vehicles (SPV) with a terminating structure. In the case of certain events, including the credit downgrade of the SPV or the failure of the parent company to maintain certain collateral levels, the SPV would be required to wind up its business and terminate all of its outstanding transactions with all clients, including the Authority. All such terminations would be at mid-market pricing. In the event of such termination, the Authority would be exposed to the risk of market re-entry and the cost differential between the mid-market termination and the offered price upon re-entry.

Rollover Risk: The Authority is exposed to rollover risk only on swaps that mature or may be terminated at the counterparty's option prior to the maturity of the associated debt. As of December 31, 2020 and 2019, the Authority was not exposed to rollover risk.

Amortization Risk: The Authority is exposed to amortization risk in the event that the swap amortization schedules fail to match the actual amortization of the underlying bonds as a result of loan prepayments, which significantly deviate from expectations. If prepayments are significantly higher than anticipated, the Authority would have the option of reinvesting or recycling the prepayments, or calling unhedged bonds. Alternatively, if the Authority chose to call bonds associated with the swap, the Authority could elect an early termination of the related portions of the swap at a potential cost to the Authority. If prepayments are significantly lower than anticipated and the associated bonds remained outstanding longer than the relevant portion of the swap, the Authority could experience an increase in its exposure to unhedged variable rate bonds. Alternatively, the Authority could choose to enter into a new swap or an extension of the existing swap. If interest rates are higher at the time of entering into a new swap or swap extension, such action would result in an increased cost to the Authority.

Collateral Requirements: As of December 31, 2020 and 2019, swaps with a fair value of $108.0 million and $77.3 million, respectively, require the Authority to post collateral in the event that the underlying Class I bond rating drops below Aa3 as issued by Moody's Investor Service or AA- as issued by Standard & Poor's. Collateral requirements range up to 100% of the fair value of the swap depending on the bond rating. Over collateralization is required for investments posted in lieu of cash. At December 31, 2020 and 2019, the ratings of bonds subject to collateral requirements exceed the levels specified in the swap agreements.

(tabular dollar amounts are in thousands)

Swap Payments – Using interest rates as of December 31, 2020, debt service requirements of the Authority's outstanding variable rate debt and net swap payments were as follows. As rates vary, variable rate interest rate payments on the bonds and net swap payments will change.

Years Ending December 31,	Principal	Interest	Swaps, Net	Total
2021	$ 17,435	$ 855	$ 21,093	$ 39,383
2022	15,170	845	20,077	36,092
2023	13,010	832	19,656	33,498
2024	11,130	820	19,046	30,996
2025	12,905	804	18,558	32,267
2026-2030	110,875	3,672	81,733	196,280
2031-2035	232,785	2,694	58,520	293,999
2036-2040	192,020	1,256	28,933	222,209
2041-2045	63,715	365	8,831	72,911
2046-2050	24,305	67	1,307	25,679
Total	$ 693,350	$ 12,210	$ 277,754	$ 983,314

Hybrid Instrument Borrowings – Certain interest rate swaps, as identified on the detailed swap table above, include fixed rates that were off-market at the execution of the interest rate swaps. For financial reporting purposes, these interest rate swaps are considered hybrid instruments and are bifurcated between borrowings, with an aggregate original amount of $98.0 million reflecting the fair value of the instrument at its execution, and an interest rate swap with a fixed rate that was considered at-the-market at execution. Activity for the hybrid instrument borrowings for the years ended December 31, 2020 and 2019 was as follows:

	2020	2019
Beginning balance	$ 8,120	$ 16,059
Additions	331	-
Reductions	(1,903)	(7,939)
Ending balance	$ 6,548	$ 8,120

(tabular dollar amounts are in thousands)

The following table sets forth as of December 31, 2020, payments of principal and interest on the hybrid instrument borrowings for the next five years and thereafter. The total payments generally reflect the difference between the stated fixed rate of the hybrid instrument and the at-the-market fixed rate at the execution of the instrument.

Years Ending December 31,	Principal and Interest
2021	$ 1,567
2022	1,078
2023	808
2024	655
2025	564
2026-2030	1,407
2031-2035	317
2036-2040	125
2041-2045	26
2046-2050	1
Total	$ 6,548

Forward Sales Contracts – The Authority has entered into forward sales of mortgage backed securities with the To-Be-Announced market in order to lock in the sales price of certain single family loans to be securitized and later sold. The contracts offset potential changes in interest rates between the time of the loan reservation and the securitization and sale of such loans into Ginnie Mae and Fannie Mae securities. These contracts are considered investment derivative instruments, such that their change in fair value is reported as investment derivative activity gains or losses on the Statement of Revenues, Expenses and Changes in Net Position.

The outstanding forward contracts, summarized by counterparty as of December 31, 2020, were as follows:

Count	Par	Exposure	Original Sales Price	12/31/20 Premium	Fair Value	Counterparty Rating (S&P / Moody's)
8	$ 74,000	12.1%	$ 77,572	$ 77,975	$ 403	A+ / Aa2
5	99,000	16.2%	103,852	104,395	543	A / A1
3	20,000	3.3%	20,931	21,056	125	AA- / Aa2
1	30,000	4.9%	31,744	31,716	(28)	NA
8	66,000	10.8%	69,000	69,657	657	A+ / Aa3
5	86,000	14.1%	90,618	90,792	174	BBB+ / Baa1
6	93,000	15.2%	97,312	98,156	844	BBB+ / A2
2	40,000	6.5%	41,711	42,288	577	BBB- / NA
9	104,000	16.9%	108,478	109,386	908	A+ / Aa2
47	$ 612,000	100.00%	$ 641,218	$ 645,421	$ 4,203	

(tabular dollar amounts are in thousands)

The outstanding forward contracts, summarized by counterparty as of December 31, 2019, were as follows:

Count	Par	Exposure	Original Sales Price	12/31/19 Premium	Fair Value	Counterparty Rating (S&P / Moody's)
9	$ 84,000	13.6%	$ 86,776	$ 86,706	$ (70)	A+ / Aa2
10	59,000	9.5%	60,666	60,643	(23)	A / A2
5	53,000	8.6%	54,907	54,822	(85)	AA- / Aa2
3	75,000	12.1%	78,645	77,909	(736)	NA
8	102,000	16.5%	105,977	105,398	(579)	BBB+ / Baa1
17	173,000	28.1%	178,708	178,516	(192)	BBB+ / A3
1	15,000	2.4%	15,573	15,537	(36)	BBB- / NA
10	57,000	9.2%	58,554	58,666	112	A+ / Aa2
63	$ 618,000	100.00%	$ 639,806	$ 638,197	$ (1,609)	

Summary

A summary of derivative instruments activity for the years ended December 31, 2020 and 2019 is as follows:

	2020				2019			
	Hedging	Investments			Hedging	Investments		
	Swaps	Swaps	Forwards	Total	Swaps	Swaps	Forwards	Total
Fair value, beginning	$ 80,153	$ 2,589	$ (1,609)	$ 81,133	$ 51,845	$ 1,982	$ 1,201	$ 55,028
Settlements	(15,403)	(1,288)	1,609	(15,082)	(2,425)	(3,276)	(1,201)	(6,902)
Change in fair value	48,414	749	4,203	53,366	30,733	3,883	(1,609)	33,007
Fair value, ending	$ 113,164	$ 2,050	$ 4,203	$ 119,417	$ 80,153	$ 2,589	$ (1,609)	$ 81,133

(9) Debt Refundings

On July 30, 2020, the Authority issued the Single Family Mortgage 2020 Series D, 2020 Series E and 2020 Series F Bonds in the aggregate principal amount of $111.9 million to fund new production and to refund a prior bond issue. The Authority's Single Family Mortgage Class I Adjustable Rate Bonds, 2002 Series C-3 in the aggregate principal amount of $8.1 million were fully refunded. The refunding resulted in a reduction of the projected interest rate on the refunded bonds.

On October 1, 2020, the Authority issued the Multi-Family/Project Class I Bonds, 2020 Series C and 2020 Series D (Federally Taxable) in the aggregate principal amount of $73.1 million to finance a portion of the costs of the acquisition, construction, rehabilitation and equipping of a rental housing facility, fund new production and to refund prior bond issues. The Authority's Multi-Family/Project Class I Adjustable Rate Bonds, 2005 Series B-2 million and Multi-Family/Project Class I Adjustable Rate Bonds, 2006 Series A-1 in the aggregate principal amount of $15.9 million were fully refunded. The refunding resulted in a reduction to the projected interest rate on the refunding bonds, including the associated interest rate swaps outstanding on the refunded bonds.

On April 18, 2019, the Authority issued the Single Family Mortgage 2019 Series D, and 2019 Series E Bonds in the aggregate principal amount of $143.2 million to fund new production and to refund prior bond issues. The Authority's Single Family Mortgage Class I Adjustable Rate Bonds, 2006 Series A-2, A-3, B-2, B-3 and Single Family Mortgage Class I Adjustable Rate

Bonds, 2007 Series B-2 in the aggregate principal amount of $63.2 million were fully refunded. The refunding resulted in a reduction of the projected interest rate on the refunded bonds, including the associated interest rate swaps outstanding on the refunded bonds.

On November 20, 2019, the Authority issued the Single Family Mortgage 2019 Series J, 2019 Series K, and 2019 Series L Bonds in the aggregate principal amount of $125.7 million to fund new production and to refund prior bond issues. The Authority's Single Family Mortgage Class I Adjustable Rate Bonds, 2013 Series B in the aggregate principal amount of $14.4 million was fully refunded. The refunding resulted in an overall lower interest rate cost.

On July 30, 2019, the Authority issued the Multifamily/Project Class I 2019 Series A-1, 2019 Series A-2, and 2019 Series A-3 Bonds in the aggregate principal amount of $28.1 million to fund new production and to refund prior bond issues. The Authority's Multi-Family/Project Class I Adjustable Rate Bonds, 2008 Series C-3 in an aggregate principal amount of $2.9 million was fully refunded. The refunding resulted in an overall lower interest rate cost.

(10) Fair Value Measurement

The Authority categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the assets and liabilities and gives the highest priority to Level 1 measurements and the lowest priority to Level 3 measurements. These measurements are described as follows:

Level 1 – Unadjusted quoted prices for identical instruments in active markets.

Level 2 – Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.

Level 3 – Valuations derived from valuation techniques in which significant inputs are unobservable.

(tabular dollar amounts are in thousands)

The Authority has the following recurring fair value measurements as of December 31, 2020:

		Fair Value Measurements Using		
	12/31/2020	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level				
U.S. government agencies	$ 1,487,993	$ 31,576	$ 1,456,417	$ -
U.S. Treasuries	713	485	228	-
Total investments by fair value level		$ 32,061	$ 1,456,645	$ -
Other investments not subject to the leveling hierarchy				
Investment agreements - uncollaterlized	71,044			
Repurchase agreements	12,221			
Money market mutual funds	230,323			
External investment pools	9,144			
Total investments	$ 1,811,438			
Derivative instruments				
Forward sale agreements	$ 4,203	$ -	$ 4,203	$ -
Hedging and investment derivatives	115,214	-	115,214	-
Total derivative instruments	$ 119,417	$ -	$ 119,417	$ -

Investments and derivative instruments classified as Level 2 are valued using either bid evaluation or a matrix-based pricing technique. Bid evaluations are typically based on market quotations, yields, maturities, call features and ratings. Matrix pricing is used to value securities based on a securities' relationship to benchmark quoted prices.

As of December 31, 2020, the Authority held investments totaling $83.3 million that were not subject to the leveling hierarchy, these investments consisted of private, guaranteed investment contracts categorized as either investment agreements or repurchase agreements. Additionally, the Authority held investments in money market mutual funds and in an external governmental investment pool totaling $230.3 million and $9.1 million, respectively, which were not subject to the leveling hierarchy.

(tabular dollar amounts are in thousands)

The Authority has the following recurring fair value measurements as of December 31, 2019:

		Fair Value Measurements Using		
	12/31/2019	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level				
U.S. government agencies	$ 1,144,409	$ 24,850	$ 1,119,559	$ -
U.S. Treasuries	700	498	202	-
Total investments by fair value level		$ 25,348	$ 1,119,761	$ -
Other investments not subject to the leveling hierarchy				
Investment agreements - uncollaterlized	35,526			
Repurchase agreements	8,752			
Money market mutual funds	234,128			
External investment pools	9,039			
Total investments	$ 1,432,554			
Derivative instruments				
Forward sale agreements	$ (1,609)	$ -	$ (1,609)	$ -
Hedging and investment derivatives	82,742	-	82,742	-
Total derivative instruments	$ 81,133	$ -	$ 81,133	$ -

Investments and derivative instruments classified as Level 2 are valued using either bid evaluation or a matrix-based pricing technique. Bid evaluations are typically based on market quotations, yields, maturities, call features and ratings. Matrix pricing is used to value securities based on a securities' relationship to benchmark quoted prices.

As of December 31, 2019, the Authority held investments totaling $44.3 million that were not subject to the leveling hierarchy, these investments consisted of private, guaranteed investment contracts categorized as either investment agreements or repurchase agreements. Additionally, the Authority held investments in money market mutual funds and in an external governmental investment pool totaling $234.1 million and $9.0 million, respectively, which were not subject to the leveling hierarchy.

(11) Restricted and Unrestricted Net Position

The amounts restricted for the Single Family bond programs and the Multifamily/Business bond programs are for the payment of principal, redemption premium, if any, and interest, including net swap payments, on all outstanding single family and multifamily/business bond issues, in the event that no other funds are legally available for such payments. Such assets are segregated within the Single Family and Multifamily/Business bond programs and are held in cash, loans receivable and investments.

(tabular dollar amounts are in thousands)

The Board may authorize the withdrawal of all or part of this restricted balance if (1) updated cash flow projections indicate that adequate resources will exist after any withdrawal to service the outstanding debt, subject to approval by the bond trustee and the rating agency review; (2) the Authority determines that such funds are needed for the implementation or maintenance of any duly adopted program of the Authority; and (3) no default exists in the payment of the principal, redemption premium, if any, or interest on such bonds.

The Board has designated certain amounts of the unrestricted net position of the General Programs as of December 31, 2020 and 2019, for various purposes, as indicated in the following table. These designations of net position are not binding, and can be changed by the Board.

Unrestricted Net Position for the years ended December 31, 2020 and 2019:

	2020	2019
Designations:		
Housing lending program	$ 339,004	$ 283,479
Commerical lending program	1,207	7,504
General operating and working capital reserves	49,262	30,005
Debt reserves	100,140	94,253
Total general programs unrestricted net position	$ 489,613	$ 415,241

(12) Retirement Plans

(a) Summary of Significant Accounting Policies

Pensions – The Authority participates in the Local Government Division Trust Fund (LGDTF), a cost-sharing multiple-employer defined benefit pension fund administered by the PERA. The net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, pension expense, information about the fiduciary net position and additions to/deductions from the fiduciary net position of the LGDTF have been determined using the economic resources measurement focus and the accrual basis of accounting. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

The Colorado General Assembly passed significant pension reform through Senate Bill (SB) 18-200: *Concerning Modifications To the Public Employees' Retirement Association Hybrid Defined Benefit Plan Necessary to Eliminate with a High Probability the Unfunded Liability of the Plan Within the Next Thirty Years.* The bill was signed into law by Governor Hickenlooper on June 4, 2018. SB 18-200 makes changes to certain benefit provisions. Some, but not all, of these changes were in effect as of December 31, 2020.

(b) General Information about the Pension Plan

Plan description – Eligible employees of the Authority are provided with pensions through the LGDTF. Plan benefits are specified in Title 24, Article 51 of the Colorado Revised Statutes (C.R.S.), administrative rules set forth at 8 C.C.R. 1502-1, and applicable provisions of the IRC. Colorado State law provisions may be amended from time to time by the Colorado General Assembly. PERA issues a publicly available comprehensive annual financial report that can be obtained at www.copera.org/investments/pera-financial-reports.

Benefits provided **–** PERA provides retirement, disability and survivor benefits. Retirement benefits are determined by the amount of service credit earned and/or purchased, highest average salary, the benefit structure(s) under which the member retires, the benefit option selected at retirement, and age at retirement. Retirement eligibility is specified in tables set forth at C.R.S. § 24-51-602, 604, 1713, and 1714.

The lifetime retirement benefit for all eligible retiring employees under the PERA Benefit Structure is the greater of the:

- Highest average salary multiplied by 2.5% and then multiplied by years of service credit

- The value of the retiring employee's member contribution account plus a 100% match on eligible amounts as of the retirement date. This amount is then annuitized into a monthly benefit based on life expectancy and other actuarial factors.

In all cases the service retirement benefit is limited to 100% of highest average salary and also cannot exceed the maximum benefit allowed by IRC.

Members may elect to withdraw their member contribution accounts upon termination of employment with all PERA employers; waiving rights to any lifetime retirement benefits earned. If eligible, the member may receive a match of either 50% or 100% on eligible amounts depending on when contributions were remitted to PERA, the date employment was terminated, whether five years of service credit has been obtained and the benefit structure under which contributions were made.

As of December 31, 2019, benefit recipients who elect to receive a lifetime retirement benefit are generally eligible to receive post-retirement cost-of-living adjustments in certain years, referred to as annual increases in the C.R.S. Pursuant to SB 18-200, there was not an annual increase (AI) for 2019. Thereafter, benefit recipients under the PERA benefit structure who began eligible employment before January 1, 2007, and all benefit recipients of the Denver Public Schools (DPS) benefit structure will receive an annual increase of 1.25% unless adjusted by the automatic adjustment provision (AAP) pursuant to C.R.S. § 24-51-413. Benefit recipients under the PERA benefit structure who began eligible employment on or after January 1, 2007 will receive the lessor of an annual increase of 1.25% or the average of the Consumer Price Index for Urban Wage Earners and Clerical Workers for the prior calendar year, not to exceed 10% of PERA's Annual Increase Reserve (AIR) for the LGDTF. The AAP may raise or lower the aforementioned annual increase by up to 0.25% based on the parameters specified in C.R.S. § 24-51-413.

Disability benefits are available for eligible employees once they reach five years of earned service credit and are determined to meet the definition of disability. The disability benefit amount is based on the retirement benefit formula shown above considering a minimum of 20 years of service credit, if deemed disabled.

Survivor benefits are determined by several factors, which include the amount of earned service credit, highest average salary of the deceased, the benefit structure(s) under which service credit was obtained, and the qualified survivor(s) who will receive the benefits.

(tabular dollar amounts are in thousands)

Contributions – Eligible employees and the Authority are required to contribute to the LGDTF at a rate set by Colorado statute. The contribution requirements are established under C.R.S. § 24-51-401, et seq. and § 24-51-413. Employee contribution rates for the period of January 1, 2019 through December 31, 2020, are summarized in the table below:

	January 1, 2019 Through June 30, 2020	July 1, 2020 Through December 31, 2020
Employee Contribution Rate [1]	8.00%	8.50%

[1]Rates are expressed as a percentage of salary as defined in C.R.S. § 24-51-101(42).

The employer contribution requirements for all employees, except State Troopers, are summarized in the table below:

	January 1, 2019 Through June 30, 2020	July 1, 2020 Through December 31, 2020
Employer Contribution Rate [1]	10.00%	10.50%
Amount of Employer Contribution apportioned to the Health Care Trust Fund as specified in C.R.S. § 24-51-208(1)(f) [1]	-1.02%	-1.02%
Amount Apportioned to the LGDTF [1]	8.98%	9.48%
Amortization Equalization Disbursement (AED) as specified in C.R.S. § 24-51-411 [1]	2.20%	2.20%
Supplemental Amortization Equalization Disbursement (SAED) as specified in C.R.S. § 24-51-411 [1]	1.50%	1.50%
Total Employer Contribution Rate to the LGDTF [1]	12.68%	13.18%

[1]Rates are expressed as a percentage of salary as defined in C.R.S. § 24-51-101(42).

Employer contributions are recognized by the LGDTF in the period in which the compensation becomes payable to the member and the Authority is statutorily committed to pay the contributions to the LGDTF. Employer contributions recognized by the LGDTF from the Authority were $2.1 million and $2.0 million for the years ended December 31, 2020 and 2019, respectively.

(c) Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At December 31, 2020, the Authority reported a liability of $17.7 million for its proportionate share of the net pension liability. The net pension liability was measured as of December 31, 2019, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of December 31, 2018. Standard update procedures were used to roll forward the total pension liability to December 31, 2019. The Authority's proportion of the net pension liability was based on the Authority's contributions to the LGDTF for the calendar year 2019 relative to the total contributions of participating employers to the LGDTF.

At December 31, 2019, the Authority's proportion was 2.42%, which was an increase of 0.01% from its proportion measured as of December 31, 2018.

At December 31, 2019, the Authority reported a liability of $30.3 million for its proportionate share of the net pension liability. The net pension liability was measured as of December 31, 2018, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of December 31, 2017. Standard update procedures were used to roll forward the total pension liability to December 31, 2018. The Authority's proportion of the net pension liability was based on the Authority's contributions to the LGDTF for the calendar year 2018 relative to the total contributions of participating employers to the LGDTF.

(tabular dollar amounts are in thousands)

At December 31, 2018, the Authority's proportion was 2.41%, which was a decrease of 0.2% from its proportion measured as of December 31, 2017.

For the years ended December 31, 2020 and 2019, the Authority recognized pension expense of $(4.7) million and $(3.2) million, respectively. At December 31, 2020, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflow of Resources	Deferred Inflow of Resources
Difference between expected and actual experience	$ 646	$ -
Net difference between projected and actual earnings on pension plan investments	-	6,054
Changes in proportion and differences between contributions recognized and proportionate share of contributions	106	328
Contributions subsequent to the measurement date	2,215	n/a
Total	$ 2,967	$ 6,382

The $2.2 million reported as deferred outflows of resources related to pensions, resulting from contributions subsequent to the measurement date, will be recognized as a reduction of the net pension liability in the year ended December 31, 2021.

At December 31, 2019, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflow of Resources	Deferred Inflow of Resources
Difference between expected and actual experience	$ 728	$ -
Net difference between projected and actual earnings on pension plan investments	2,730	-
Changes in proportion and differences between contributions recognized and proportionate share of contributions	200	1,263
Contributions subsequent to the measurement date	2,109	n/a
Total	$ 5,767	$ 1,263

The $2.1 million reported as deferred outflows of resources related to pensions, resulting from contributions subsequent to the measurement date, will be recognized as a reduction of the net pension liability in the year ended December 31, 2020.

(tabular dollar amounts are in thousands)

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Years Ending December 31,	Pension Expense
2021	$ (1,587)
2022	(1,814)
2023	(254)
2024	(1,975)
2025	-
Thereafter	-

Actuarial assumptions – The total pension liability in the December 31, 2018 actuarial valuation was determined using the following actuarial cost method, actuarial assumptions and other inputs:

Actuarial cost method	Entry age
Price inflation	2.40%
Real wage growth	1.10%
Wage inflation	3.50%
Salary increases, including wage inflation	3.50% - 10.45%
Long-term investment rate of return, net of pension plan investment expenses, including price inflation	7.25%
Discount Rate	7.25%
Post-retirement benefit increases:	
PERA benefit structure hired prior to 1/1/07 and DPS benefit structure (automatic)	1.25% compounded annually
PERA benefit structure hired after 12/31/06 (ad hoc, substantively automatic)	Financed by the Annual Increase Reserve (AIR)

Healthy mortality assumptions for active members reflect the RP-2014 White Collar Employee Mortality Table, a table specifically developed for actively working people. To allow for an appropriate margin of improved mortality prospectively, the mortality rates incorporate a 70% factor applied to male rates and a 55% factor applied to female rates.

Post-retirement non-disabled mortality assumptions were based on the RP-2014 Healthy Annuitant Mortality Table, adjusted as follows:

- Males: Mortality improvement projected to 2018 using the MP-2015 projection scale, a 73% factor applied to rates for ages less than 80, a 108% factor applied to rates for ages 80 and above, and further adjustments for credibility.

- Females: Mortality improvement projected to 2020 using the MP-2015 projection scale, a 78% factor applied to rates for ages less than 80, a 109% factor applied to rates for ages 80 and above, and further adjustments for credibility.

For disabled retirees, the mortality assumption was changed to reflect 90% of the RP-2014 Disabled Retiree Mortality Table.

(tabular dollar amounts are in thousands)

The actuarial assumptions used in the December 31, 2018, valuations were based on the results of the 2016 experience analysis for the periods January 1, 2012, through December 31, 2015, as well as, the October 28, 2016, actuarial assumptions workshop and were adopted by the PERA Board during the November 18, 2016, Board meeting.

The long-term expected return on plan assets is reviewed as part of regular experience studies prepared every four or five years for PERA. Recently, this assumption has been reviewed more frequently. The most recent analyses were outlined in presentations to PERA's Board on October 28, 2016.

Several factors were considered in evaluating the long-term rate of return assumption for the LGDTF, including long-term historical data, estimates inherent in current market data, and a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected return, net of investment expense and inflation) were developed by the investment consultant for each major asset class. These ranges were combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation.

As of the most recent adoption of the long-term expected rate of return by the PERA Board, the target asset allocation and best estimates of geometric real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	30 Year Expected Geometric Real Rate of Return *
U.S. Equity – Large Cap	21.20%	4.30%
U.S. Equity – Small Cap	7.42%	4.80%
Non U.S. Equity – Developed	18.55%	5.20%
Non U.S. Equity – Emerging	5.83%	5.40%
Core Fixed Income	19.32%	1.20%
High Yield	1.38%	4.30%
Non U.S. Fixed Income – Developed	1.84%	0.60%
Emerging Market Debt	0.46%	3.90%
Core Real Estate	8.50%	4.90%
Opportunity Fund	6.00%	3.80%
Private Equity	8.50%	6.60%
Cash	1.00%	0.20%
Total	100.00%	

In setting the long-term expected rate of return, projections employed to model future returns provide a range of expected long-term returns that, including expected inflation, ultimately support a long-term expected rate of return assumption of 7.25%.

Discount rate – The discount rate used to measure the total pension liability was 7.25%. The projection of cash flows used to determine the discount rate applied the actuarial cost method and assumptions shown above. In addition, the following methods and assumptions were used in the projection of cash flows:

- Total covered payroll for the initial projection year consists of the covered payroll of the active membership present on the valuation date and the covered payroll of future plan members assumed to be hired during the year. In subsequent projection years, total covered payroll was assumed to increase annually at a rate of 3.50%.

(tabular dollar amounts are in thousands)

- Employee contributions were assumed to be made at the member contribution rates in effect for each year, including the additional 0.50% resulting from the 2018 AAP assessment, statutorily recognized July 1, 2019, and effective July 1, 2020. Employee contributions for future plan members were used to reduce the estimated amount of total service costs for future plan members.

- Employer contributions were assumed to be made at rates equal to the fixed statutory rates specified in law for each year, including the additional 0.50%, resulting from the 2018 AAP assessment, statutorily recognized July 1, 2019, and effective July 1, 2020. Employer contributions also include current and estimated future AED and SAED, until the actuarial value funding ratio reaches 103%, at which point, the AED and SAED will each drop 0.50% every year until they are zero. Additionally, estimated employer contributions reflect reductions for the funding of the AIR and retiree health care benefits. For future plan members, employer contributions were further reduced by the estimated amount of total service costs for future plan members not financed by their member contributions.

- Employer contributions and the amount of total service costs for future plan members were based upon a process used by the plan to estimate future actuarially determined contributions assuming an analogous future plan member growth rate.

- The AIR balance was excluded from the initial fiduciary net position, as, per statute, AIR amounts cannot be used to pay benefits until transferred to either the retirement benefits reserve or the survivor benefits reserve, as appropriate. AIR transfers to the fiduciary net position and the subsequent AIR benefit payments were estimated and included in the projections.

- The projected benefit payments reflect the lowered annual increase cap, from 1.50% to 1.25% resulting from the 2018 AAP assessment, statutorily recognized July 1, 2019, and effective July 1, 2020.

- Benefit payments and contributions were assumed to be made at the end of the month.

Based on the above assumptions and methods, LGDTF's fiduciary net position was projected to be available to make all projected future benefit payments of current members. Therefore, the long-term expected rate of return of 7.25% on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. The discount rate determination does not use the municipal bond index rate, and therefore, the discount rate is 7.25%. There was no change in the discount rate from the prior measurement date.

Sensitivity of the Authority's proportionate share of the net pension liability to changes in the discount rate – The following presents the proportionate share of the net pension liability calculated using the discount rate of 7.25%, as well as what the proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate:

	1.0% Decrease (6.25%)	Current Discount Rate (7.25%)	1.0% Increase (8.25%)
Proportionate share of the net pension liability	$ 32,503	$ 17,693	$ 5,240

Pension plan fiduciary net position – Detailed information about the LGDTF's fiduciary net position is available in PERA's comprehensive annual financial report which can be obtained at www.copera.org/investments/pera-financial-reports.

(d) Defined Contribution Pension Plans

PERAPlus 401(k) Plan

Plan Description - Employees of the Authority that are also members of the LGDTF may voluntarily contribute to the PERAPlus 401(k) plan, an IRC Section 401(k) defined contribution plan administered by PERA. Title 24, Article 51, Part 14 of the C.R.S., as amended, assigns the authority to establish the Plan provisions to the PERA Board of Trustees. PERA issues a publicly available comprehensive annual financial report for the Program. That report can be obtained at www.copera.org/investments/pera-financial-reports.

Funding Policy - The PERAPlus 401(k) plan is funded by voluntary member contributions up to the maximum limits set by the Internal Revenue Service (IRS), as established under Title 24, Article 51, Section 1402 of the C.R.S., as amended. In addition, the Authority has agreed to match employee contributions up to 5% of covered salary as determined by the IRS. Employees are immediately vested in their own contributions, employer contributions and investment earnings. For the years ended December 31, 2020 and 2019, program members contributed $1.3 million and $1.2 million, respectively, and the Authority recognized expense of $727 thousand and $662 thousand, respectively, related to the PERAPlus 401(k) plan.

PERAPlus 457 Plan

Plan Description - Employees of the Authority that are also members of the LGDTF may voluntarily contribute to the PERAPlus 457 plan, an IRC Section 457 defined contribution plan administered by PERA. Title 24, Article 51, Part 14 of the C.R.S., as amended, assigns the authority to establish the Plan provisions to the PERA Board of Trustees. PERA issues a publicly available comprehensive annual financial report (CAFR) for the Program. That report can be obtained at www.copera.org/investments/pera-financial-reports.

Funding Policy - The PERAPlus 457 plan is funded by voluntary member contributions up to the maximum limits set by the IRS, as established under Title 24, Article 51, Section 1402 of the C.R.S., as amended. The Authority does not match employee contributions. Employees are immediately vested in their own contributions and investment earnings. For the years ended December 31, 2020 and 2019, program members contributed $140 thousand and $103 thousand, respectively.

(e) Other Post-Employment Benefits

Defined Benefit Other Post Employment Benefit (OPEB) Plan

Summary of Significant Accounting Policies

OPEB - The Authority participates in the Health Care Trust Fund (HCTF), a cost-sharing multiple-employer defined benefit OPEB fund administered PERA. The net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, OPEB expense, information about the fiduciary net position and additions to/deductions from the fiduciary net position of the HCTF have been determined using the economic resources measurement focus and the accrual basis of accounting. For this purpose, benefits paid on behalf of health care participants are recognized when due and/or payable in accordance with the benefit terms. Investments are reported at fair value.

General Information about the OPEB Plan

Plan description - Eligible employees of the Authority are provided with OPEB through the HCTF – a cost-sharing multiple-employer defined benefit OPEB plan administered by PERA. The HCTF is established under Title 24, Article 51, Part 12 of the Colorado Revised Statutes (C.R.S.), as amended. Colorado State law provisions may be amended from time to time by the Colorado General Assembly. Title 24, Article 51, Part 12 of the C.R.S., as amended, sets forth a framework that grants authority to the PERA Board to contract, self-insure, and authorize disbursements necessary in order to carry out the purposes of the PERACare program, including the administration of the premium subsidies. Colorado State law provisions may be amended from time to time by the Colorado General Assembly. PERA issues a publicly available comprehensive annual financial report that can be obtained at www.copera.org/investments/pera-financial-reports.

Benefits provided - The HCTF provides a health care premium subsidy to eligible participating PERA benefit recipients and retirees who choose to enroll in one of the PERA health care plans, however, the subsidy is not available if only enrolled in the dental and/or vision plan(s). The health care premium subsidy is based upon the benefit structure under which the member retires and the member's years of service credit. For members who retire having service credit with employers in the DPS Division and one or more of the other four Divisions (State, School, Local Government and Judicial), the premium subsidy is allocated between the HCTF and the Denver Public Schools Health Care Trust Fund (DPS HCTF). The basis for the amount of the premium subsidy funded by each trust fund is the percentage of the member contribution account balance from each division as it relates to the total member contribution account balance from which the retirement benefit is paid.

C.R.S. § 24-51-1202 et seq. specifies the eligibility for enrollment in the health care plans offered by PERA and the amount of the premium subsidy. The law governing a benefit recipient's eligibility for the subsidy and the amount of the subsidy differs slightly depending under which benefit structure the benefits are calculated. All benefit recipients under the PERA benefit structure and all retirees under the DPS benefit structure are eligible for a premium subsidy, if enrolled in a health care plan under PERACare. Upon the death of a DPS benefit structure retiree, no further subsidy is paid.

Enrollment in the PERACare is voluntary and is available to benefit recipients and their eligible dependents, certain surviving spouses, and divorced spouses and guardians, among others. Eligible benefit recipients may enroll into the program upon retirement, upon the occurrence of certain life events, or on an annual basis during an open enrollment period.

OPEB Benefit Structure - The maximum service-based premium subsidy is $230 per month for benefit recipients who are under 65 years of age and who are not entitled to Medicare; the maximum service-based subsidy is $115 per month for benefit recipients who are 65 years of age or older or who are under 65 years of age and entitled to Medicare. The basis for the maximum service-based subsidy, in each case, is for benefit recipients with retirement benefits based on 20 or more years of service credit. There is a 5% reduction in the subsidy for each year less than 20. The benefit recipient pays the remaining portion of the premium to the extent the subsidy does not cover the entire amount.

For benefit recipients who have not participated in Social Security and who are not otherwise eligible for premium-free Medicare Part A for hospital-related services, C.R.S. § 24-51-1206(4) provides an additional subsidy. According to the statute, PERA cannot charge premiums to benefit recipients without Medicare Part A that are greater than premiums charged to benefit recipients with Part A for the same plan option, coverage level, and service credit. Currently, for each individual PERACare enrollee, the total premium for Medicare coverage is determined assuming plan participants have both Medicare Part A and Part B and the difference in premium cost is paid by the HCTF or the DPS HCTF on behalf of benefit recipients not covered by Medicare Part A.

Contributions - Pursuant to Title 24, Article 51, Section 208(1)(f) of the C.R.S., as amended, certain contributions are apportioned to the HCTF. PERA-affiliated employers of the State, School, Local Government, and Judicial Divisions are required to contribute at a rate of 1.02% of PERA-includable salary into the HCTF.

Employer contributions are recognized by the HCTF in the period in which the compensation becomes payable to the member and the Authority is statutorily committed to pay the contributions. Employer contributions recognized by the HCTF from the Authority were $170 thousand and $161 thousand for the years ended December 31, 2020 and 2019.

(tabular dollar amounts are in thousands)

OPEB Liabilities, OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

At December 31, 2020 the Authority reported a liability of $2.1 million for its proportionate share of the net OPEB liability. The net OPEB liability for the HCTF was measured as of December 31, 2019, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of December 31, 2018. Standard update procedures were used to roll-forward the total OPEB liability to December 31, 2019. The Authority's proportion of the net OPEB liability was based on the Authority's contributions to the HCTF for the calendar year 2019 relative to the total contributions of participating employers to the HCTF.

At December 31, 2019, the Authority's proportion was 0.18%, which was a decrease of 0.01% from its proportion measured as of December 31, 2018.

At December 31, 2019 the Authority reported a liability of $2.5 million for its proportionate share of the net OPEB liability. The net OPEB liability for the HCTF was measured as of December 31, 2018, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of December 31, 2017. Standard update procedures were used to roll-forward the total OPEB liability to December 31, 2018. The Authority's proportion of the net OPEB liability was based on the Authority's contributions to the HCTF for the calendar year 2018 relative to the total contributions of participating employers to the HCTF.

At December 31, 2018, the Authority's proportion was 0.19%, which was a decrease of 0.01% from its proportion measured as of December 31, 2017.

For the years ended December 31, 2020 and 2019, the Authority recognized OPEB expense of $(113) thousand and $54 thousand, respectively. At December 31, 2020, the Authority reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflow of Resources	Deferred Inflow of Resources
Difference between expected and actual experience	$ 6	$ 292
Change of assumptions or other inputs	15	
Net difference between projected and actual earnings on OPEB plan investments	-	29
Changes in proportion and differences between contributions recognized and proportionate share of contributions	115	152
Contributions subsequent to the measurement date	176	n/a
Total	$ 312	$ 473

The $176 thousand reported as deferred outflows of resources related to OPEB, resulting from contributions subsequent to the measurement date, will be recognized as a reduction of the net OPEB liability in the year ended December 31, 2021.

(tabular dollar amounts are in thousands)

At December 31, 2019, the Authority reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflow of Resources	Deferred Inflow of Resources
Difference between expected and actual experience	$ 7	$ 3
Change of assumptions or other inputs	15	
Net difference between projected and actual earnings on OPEB plan investments	10	-
Changes in proportion and differences between contributions recognized and proportionate share of contributions	154	172
Contributions subsequent to the measurement date	170	n/a
Total	$ 356	$ 175

The $170 thousand reported as deferred outflows of resources related to OPEB, resulting from contributions subsequent to the measurement date, will be recognized as a reduction of the net OPEB liability in the year ended December 31, 2020.

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

Years Ending December 31,	OPEB Expense
2021	$ (62)
2022	(62)
2023	(53)
2024	(98)
2025	(61)
Thereafter	(1)

(tabular dollar amounts are in thousands)

Actuarial assumptions **-** The total OPEB liability in the December 31, 2018 actuarial valuation was determined using the following actuarial cost method, actuarial assumptions and other inputs:

Actuarial cost method	Entry age
Price inflation	2.40%
Real wage growth	1.10%
Wage inflation	3.50%
Salary increases, including wage inflation	3.50% in aggregate
Long-term investment rate of return, net of pension plan investment expenses, including price inflation	7.25%
Discount Rate	7.25%
Health care cost trend rates	
PERA benefit structure:	
Service-based premium subsidy	0.00%
PERACare Medicare plans	5.60% in 2019, gradually decreasing to 4.50% in 2029
Medicare Part A premiums	3.50% in 2019, gradually increasing to 4.50% in 2029
DPS benefit structure:	
Service-based premium subsidy	0.00%
PERACare Medicare plans	N/A
Medicare Part A premiums	N/A

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of each actuarial valuation and on the pattern of sharing of costs between employers of each fund to that point.

The actuarial assumptions used in the December 31, 2018, valuation were based on the results of the 2016 experience analysis for the periods January 1, 2012, through December 31, 2015, as well as, the October 28, 2016, actuarial assumptions workshop and were adopted by the PERA Board during the November 18, 2016, Board meeting. In addition, certain actuarial assumptions pertaining to per capita health care costs and their related trends are analyzed and reviewed by PERA's actuary, as discussed below.

In determining the additional liability for PERACare enrollees who are age sixty-five or older and who are not eligible for premium-free Medicare Part A, the following monthly costs/premiums are assumed for 2019 for the PERA Benefit Structure:

Medicare Plan	**Cost for Members Without Medicare Part A**	**Premium for Members Without Medicare Part A**
Medicare Advantage/Self-Insured Prescription	$ 601	$ 240
Kaiser Permanente Medicare Advantage HMO	$ 605	$ 237

The 2019 Medicare Part A premium is $437 per month.

(tabular dollar amounts are in thousands)

In determining the additional liability for PERACare enrollees in the PERA Benefit Structure who are age sixty-five or older and who are not eligible for premium-free Medicare Part A, the following chart details the initial expected value of Medicare Part A benefits, age adjusted to age 65 for the year following the valuation date:

Medicare Plan	Cost for Members Without Medicare Part A
Medicare Advantage/Self-Insured Prescription	$ 562
Kaiser Permanente Medicare Advantage HMO	$ 571

All costs are subject to the health care cost trend rates, as discussed below.

Health care cost trend rates reflect the change in per capita health costs over time due to factors such as medical inflation, utilization, plan design, and technology improvements. For the PERA benefit structure, health care cost trend rates are needed to project the future costs associated with providing benefits to those PERACare enrollees not eligible for premium-free Medicare Part A.

Health care cost trend rates for the PERA benefit structure are based on published annual health care inflation surveys in conjunction with actual plan experience (if credible), building block models and heuristics developed by health plan actuaries and administrators, and projected trends for the Federal Hospital Insurance Trust Fund (Medicare Part A premiums) provided by the Centers for Medicare & Medicaid Services are referenced in the development of these rates. Effective December 31, 2018, the health care cost trend rates for Medicare Part A premiums were revised to reflect the current expectation of future increases in rates of inflation applicable to Medicare Part A premiums.

The PERA benefit structure health care cost trend rates that were used to measure the total OPEB liability are summarized in the table below:

Year	PERACare Medicare Plans	Medicare Part A Premiums
2019	5.60%	3.50%
2020	8.60%	3.50%
2021	7.30%	3.50%
2022	6.00%	3.75%
2023	5.70%	3.75%
2024	5.50%	3.75%
2025	5.30%	4.00%
2026	5.10%	4.00%
2027	4.90%	4.25%
2028	4.70%	4.25%
2029+	4.50%	4.50%

Mortality assumptions for the determination of the total pension liability for each of the Division Trust Funds as shown below are applied, as applicable, in the determination of the total OPEB liability for the HCTF. Affiliated employers of the State, School, Local Government, and Judicial Divisions participate in the HCTF.

Healthy mortality assumptions for active members were based on the RP-2014 White Collar Employee Mortality Table, a table specifically developed for actively working people. To allow for an appropriate margin of improved mortality prospectively, the mortality rates incorporate a 70% factor applied to male rates and a 55% factor applied to female rates.

Post-retirement non-disabled mortality assumptions for the State and Local Government Divisions were based on the RP-2014 Healthy Annuitant Mortality Table, adjusted as follows:

- Males: Mortality improvement projected to 2018 using the MP-2015 projection scale, a 73% factor applied to rates for ages less than 80, a 108% factor applied to rates for ages 80 and above, and further adjustments for credibility.

- Females: Mortality improvement projected to 2020 using the MP-2015 projection scale, a 78% factor applied to rates for ages less than 80, a 109% factor applied to rates for ages 80 and above, and further adjustments for credibility.

Post-retirement non-disabled mortality assumptions for the School and Judicial Divisions were based on the RP-2014 White Collar Healthy Annuitant Mortality Table, adjusted as follows:

- Males: Mortality improvement projected to 2018 using the MP-2015 projection scale, a 93% factor applied to rates for ages less than 80, a 113% factor applied to rates for ages 80 and above, and further adjustments for credibility.

- Females: Mortality improvement projected to 2020 using the MP-2015 projection scale, a 68% factor applied to rates for ages less than 80, a 106% factor applied to rates for ages 80 and above, and further adjustments for credibility.

For disabled retirees, the mortality assumption was based on 90% of the RP-2014 Disabled Retiree Mortality Table.

The following health care costs assumptions were updated and used in the measurement of the obligations for the HCTF:

- Initial per capita health care costs for those PERACare enrollees under the PERA benefit structure who are expected to attain age 65 and older ages and are not eligible for premium-free Medicare Part A benefits were updated to reflect the change in costs for the 2019 plan year.

- The morbidity assumptions were updated to reflect the assumed standard aging factors.

- The health care cost trend rates for Medicare Part A premiums were revised to reflect the then-current expectation of future increases in rates of inflation applicable to Medicare Part A premiums

The long-term expected return on plan assets is reviewed as part of regular experience studies prepared every four or five years for PERA. Recently, this assumption has been reviewed more frequently. The most recent analyses were outlined in presentations to PERA's Board on October 28, 2016.

Several factors were considered in evaluating the long-term rate of return assumption for the HCTF, including long-term historical data, estimates inherent in current market data, and a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected return, net of investment expense and inflation) were developed for each major asset class. These ranges were combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation.

(tabular dollar amounts are in thousands)

As of the most recent adoption of the long-term expected rate of return by the PERA Board, the target asset allocation and best estimates of geometric real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	30 Year Expected Geometric Real Rate of Return *
U.S. Equity – Large Cap	21.20%	4.30%
U.S. Equity – Small Cap	7.42%	4.80%
Non U.S. Equity – Developed	18.55%	5.20%
Non U.S. Equity – Emerging	5.83%	5.40%
Core Fixed Income	19.32%	1.20%
High Yield	1.38%	4.30%
Non U.S. Fixed Income – Developed	1.84%	0.60%
Emerging Market Debt	0.46%	3.90%
Core Real Estate	8.50%	4.90%
Opportunity Fund	6.00%	3.80%
Private Equity	8.50%	6.60%
Cash	1.00%	0.20%
Total	100.00%	

In setting the long-term expected rate of return, projections employed to model future returns provide a range of expected long-term returns that, including expected inflation, ultimately support a long-term expected rate of return assumption of 7.25%.

Sensitivity of the Authority's proportionate share of the net OPEB liability to changes in the Health Care Cost Trend Rates - The following presents the net OPEB liability using the current health care cost trend rates applicable to the PERA benefit structure, as well as if it were calculated using health care cost trend rates that are one percentage point lower or one percentage point higher than the current rates:

	1% Decrease in Trend Rates	Current Trend Rates	1% Increase in Trend Rates
Initial PERACare Medicare trend rate	4.60%	5.60%	6.60%
Ultimate PERACare Medicare trend rate	3.50%	4.50%	5.50%
Initial Medicare Part A trend rate	2.50%	3.50%	4.50%
Ultimate Medicare Part A trend rate	3.50%	4.50%	5.50%
Net OPEB Liability	$ 2,033	$ 2,083	$ 2,140

Discount rate - The discount rate used to measure the total OPEB liability was 7.25%. The projection of cash flows used to determine the discount rate applied the actuarial cost method and assumptions shown above. In addition, the following methods and assumptions were used in the projection of cash flows:

- Updated health care cost trend rates for Medicare Part A premiums as of the December 31, 2019, measurement date.

(tabular dollar amounts are in thousands)

- Total covered payroll for the initial projection year consists of the covered payroll of the active membership present on the valuation date and the covered payroll of future plan members assumed to be hired during the year. In subsequent projection years, total covered payroll was assumed to increase annually at a rate of 3.50%.

- Employer contributions were assumed to be made at rates equal to the fixed statutory rates specified in law and effective as of the measurement date.

- Employer contributions and the amount of total service costs for future plan members were based upon a process used by the plan to estimate future actuarially determined contributions assuming an analogous future plan member growth rate.

- Benefit payments and contributions were assumed to be made at the middle of the year.

Based on the above assumptions and methods, the projection test indicates the HCTF's fiduciary net position was projected to make all projected future benefit payments of current members. Therefore, the long-term expected rate of return of 7.25% on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability. The discount rate determination does not use the municipal bond index rate, and therefore, the discount rate is 7.25%.

Sensitivity of the* Authority *proportionate share of the net OPEB liability to changes in the discount rate - The following presents the proportionate share of the net OPEB liability calculated using the discount rate of 7.25%, as well as what the proportionate share of the net OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate:

	1.0% Decrease (6.25%)	Current Discount Rate (7.25%)	1.0% Increase (8.25%)
Proportionate share of the net OPEB liability	$ 2,355	$ 2,083	$ 1,850

OPEB plan fiduciary net position - Detailed information about the HCTF's fiduciary net position is available in PERA's comprehensive annual financial report which can be obtained at www.copera.org/investments/pera-financial-reports.

(13) Risk Management

The Authority's Legal and Enterprise Risk Management function consists of Legal Operations, Internal Audit, Compliance and Information Security and Privacy. The Authority embraces the Three Lines of Defense Model to enterprise risk management, in which senior management and the Board look to (a) operating management, (b) the risk and compliance functions and (c) internal audit testing to appropriately manage risk. The Enterprise Risk Management (ERM) function includes the Board and an Enterprise Risk Management Committee including the executive officers, Directors of Information Technology, Research and Strategy, Marketing and Community Relations and Human Resources, Managers of Audit, Compliance and Information Security and includes other staff as necessary or appropriate. Risk management techniques utilized include annual risk assessments with periodic updates, periodic review of governance around risk and opportunity, information technology and strategic projects, establishment of appropriate policies and procedures, business continuity planning and testing and insurance coverage as appropriate. The Authority presently maintains commercial general and premises liability, business automobile liability, property, mortgage protection, worker's compensation, crime, cyber and public entity and official's liability coverages. Settled claims did not exceed insurance coverage in the past three years.

(14) Related-Party Transactions

As of the years ended December 31, 2020 and 2019, the Authority had allocated Federal and State Low Income Housing Tax Credits in the amounts of $10.8 million and $8.8 million, respectively, to housing projects in which the Fort Collins Housing Authority (FCHA) is the general partner. Federal tax credits are provided annually for each of ten years and State tax credits are provided annually for each of six years. In addition, the Authority has three outstanding loans with the FCHA. As of December 31, 2020 and 2019, the unpaid principal balance on the loans was $4.0 million and $4.1 million, respectively. The Executive Director of the FCHA is a member of the Authority's Board.

As of the years ended December 31, 2020 and 2019, the Authority had allocated Federal Low Income Housing Tax Credits in the amount of $4.9 million to housing projects in which the Grand Junction Housing Authority (GJHA) is the general partner. The allocated tax credits will be provided annually for each of ten years. In addition, the Authority has four outstanding loans with the GJHA. As of December 31, 2020 and 2019, the unpaid principal balance on the loans totaled $5.3 million and $5.0 million, respectively. The Executive Director of the GJHA is a member of the Authority's Board.

As of the years ended December 31, 2020 and 2019, the Authority has four outstanding loans with the Housing Authority of the City of Loveland (HACL). As of December 31, 2020 and 2019, the unpaid principal balance on the loans totaled $4.6 million and $5.6 million, respectively. The Executive Director of the HACL was a member of the Authority's Board at the time these loans were made.

(15) Commitments and Contingencies

The Authority had outstanding commitments to make or acquire single family and multifamily/business loans of $460.0 million and $105.5 million, respectively, as of December 31, 2020. The Authority had outstanding commitments to make or acquire single family and multifamily/business loans of $506.7 million and $106.2 million, respectively, as of December 31, 2019.

There are a limited number of claims or suits pending against the Authority arising in the Authority's ordinary course of business. In the opinion of the Authority's management and counsel, any losses that might result from these claims and suits are either covered by insurance or, to the extent not covered by insurance, would not have a material adverse effect on the Authority's financial position.

The Authority participates in the Ginnie Mae MBS Programs. Through the MBS Programs, Ginnie Mae guarantees securities that are issued by the Authority and backed by pools of mortgage loans. If a borrower fails to make a timely payment on a mortgage loan, the Authority must advance its own funds to ensure that the security holders receive timely payment. All loans pooled under the Ginnie Mae MBS Program are either insured by the FHA or are guaranteed by the VA or RD. The Authority assesses the overall risk of loss on loans that it may be required to repurchase and advances funds to repurchase the loans as necessary. Advances are recovered as claims are processed or loans are modified. The Authority repurchased $63.7 million and $64.7 million of these loans in 2020 and 2019, respectively. Claims, recoveries and proceeds from re-pooled, modified loans substantially reimburse the Authority over time.

The Authority also participates in the Whole Loan Sales and MBS programs with Fannie Mae. Through the consideration of Whole Loan Sales to Fannie Mae, the Authority receives cash for mortgages. Through the MBS program, the Authority swaps loans for securities issued by Fannie Mae. Whole Loan Sales are serviced by the Authority in an Actual/Actual remittance method and the MBS loans are serviced by the Authority in a Schedule/Schedule remittance method. Under the Schedule/Schedule method, if a borrower fails to make a timely payment on a MBS mortgage loan, the Authority must advance its own funds to ensure that the security holders receive timely payment. The Authority assesses the overall risk of loss on loans that it may be required to repurchase and repurchases the loans as necessary. The Authority repurchased $1.8 million and $852 thousand of these loans in 2020 and 2019, respectively.

The Authority also participates in the Whole Loan Sales program with Freddie Mac. Through the consideration of Whole Loan Sales to Freddie Mac, the Authority receives cash for mortgages. Whole Loan Sales are serviced by the Authority in a Schedule/Actual remittance method. Under the Schedule/Actual method, if a borrower fails to make a timely payment on a mortgage loan, the Authority must advance its own funds to ensure that the interest is current. The Authority assesses the overall risk of loss on loans that it may be required to repurchase and repurchases the loans as necessary. The Authority repurchased $1.1 million and $303 thousand of these loans in 2020 and 2019, respectively.

In response to the outbreak of COVID-19, declared a global pandemic (the Pandemic) by the World Health Organization and a National Emergency by the President, certain relief and loss mitigation options were made available to affected Federal Single Family Loan borrowers. In addition, a foreclosure and eviction moratorium of all Federal Single Family Loans was put in place as part of the Coronavirus Aid, Relief, and Economic Security Act (CARES Act). The Pandemic is an ongoing situation and the Authority cannot predict (a) the duration or extent of the Pandemic or any other outbreak emergency; (b) the duration or expansion of any foreclosure or eviction moratorium affecting the Authority's ability to foreclose and collect on delinquent mortgage loans; (c) the number of mortgage loans that will be in forbearance or default as a result of the Pandemic and subsequent federal, state and local responses thereto, including the CARES Act; (d) whether and to what extent the Pandemic or other outbreak or emergency may disrupt the local or global economy, real estate markets, manufacturing, or supply chains, or whether any such disruption may adversely impact the Authority or its operations; (e) whether or to what extent the Authority or other government agencies may provide additional deferrals, forbearances, adjustments, or other changes to payments on mortgage loans; or (f) the effect of the Pandemic on the State budget, or whether any such effect may adversely impact the Authority or its operations.

required supplemental
information (unaudited)

chfa®

Colorado Housing and Finance Authority
Schedule of the Authority's Share of Net Pension Liability
Last 10 Fiscal Years*
(in thousands of dollars)

	2020	2019	2018	2017	2016	2015
Proportion of the net pension liability	2.42%	2.41%	2.61%	2.41%	2.29%	2.16%
Proportionate share of net pension liability	$ 17,693	$ 30,278	$ 29,015	$ 32,535	$ 25,185	$ 19,360
Covered-employee payroll	$ 16,634	$ 15,994	$ 14,974	$ 14,091	$ 12,984	$ 11,857
Proportionate share of the net pension liability as a percentage of its covered-employee payroll	106.38%	189.31%	193.77%	230.89%	193.97%	163.28%
Plan fiduciary net position as a percentage of the total pension plan liability	86.26%	75.96%	79.37%	73.65%	76.87%	80.72%

* This schedule is intended to show information for 10 years. Additional years will be displayed as they become available.
The accompanying notes are an integral part of the Required Supplementary Information.

Colorado Housing and Finance Authority
Schedule of Authority Contributions
Local Government Division Trust Fund
Last 10 Fiscal Years*
(in thousands of dollars)

	2020	2019	2018	2017	2016	2015
Contractually required contribution	$ 2,109	$ 2,028	$ 1,899	$ 1,787	$ 1,646	$ 1,504
Contributions in relation to the contractually required contribution	2,109	2,028	1,899	1,787	1,646	1,504
Contribution deficiency	$ -	$ -	$ -	$ -	$ -	$ -
Covered-employee payroll	$ 16,634	$ 15,994	$ 14,974	$ 14,091	$ 12,984	$ 11,857
Contributions as a percentage of covered-employee payroll	12.68%	12.68%	12.68%	12.68%	12.68%	12.68%

* This schedule is intended to show information for 10 years. Additional years will be displayed as they become available.
The accompanying notes are an integral part of the Required Supplementary Information.

1) Significant changes in Plan Provisions Affecting Trends in Actuarial Information

2019 changes

- Senate Bill (SB) 18-200 was enacted on June 4, 2018, which included the adoption of the automatic adjustment provision (AAP). The following changes reflect the anticipated adjustments resulting from the 2018 AAP assessment, statutorily recognized July 1, 2019, and effective July 1, 2020:
  - Member contribution rates increase by 0.50%
  - Employer contribution rates increase by 0.50%
  - Annual Increase (AI) cap is lowered from 1.50% per year to 1.25% per year.
- House Bill (HB) 19-1217, enacted May 20, 2019, repealed the member contribution increases scheduled for the Local Government Division pursuant to SB 18-200.

2018 changes

- The following changes were made to the plan provisions as part of SB 18-200:
  - Member contribution rates increase by 0.75% effective July 1, 2019, an additional 0.75% effective July 1, 2020, and an additional 0.50% effective July 1, 2021.
  - AI cap is lowered from 2.00% per year to 1.50% per year.
  - Initial AI waiting period is extended from one year after retirement to three years after retirement.
  - AI payments are suspended for 2018 and 2019.
  - The number of years used in the Highest Average Salary calculation for non-vested members as of January 1, 2020, increases from three to five years for the State, School, Local Government and DPS Divisions and increases from one to three years for the Judicial Division.

2017 changes

- There were no changes made to plan provisions.

2016 changes

- There were no changes made to plan provisions.

2015 changes

- There were no changes made to plan provisions.

2014 changes

- There were no changes made to plan provisions.

2) Significant changes in Assumptions or Other Inputs Affecting Trends in Actuarial Information

2019 changes

- The assumption used to value the AI cap benefit provision was changed from 1.50% to 1.25%.

2018 changes

- There were no changes made to actuarial methods or assumptions.

2017 changes

- There were no changes made to actuarial methods or assumptions.

2016 changes

- The investment return assumption was lowered from 7.50% to 7.25%.
- The price inflation assumption was lowered from 2.80% to 2.40%.
- The wage inflation assumption was lowered from 3.90% to 3.50%.
- The post-retirement mortality assumption for healthy lives for the State and Local Government Divisions was changed to the RP-2014 Healthy Annuitant Mortality Table with adjustments for credibility and gender adjustments of a 73% factor applied to ages below 80 and a 108% factor applied to age 80 and above, projected to 2018, for males, and a 78% factor applied to ages below 80 and a 109% factor applied to age 80 and above, projected to 2020, for females.
- For disabled retirees, the mortality assumption was changed to reflect 90% of RP-2014 Disabled Retiree Mortality Table.
- The mortality assumption for active members was changed to RP-2014 White Collar Employee Mortality Table, a table specifically developed for actively working people. To allow for an appropriate margin of improved mortality prospectively, the mortality rates incorporate a 70% factor applied to male rates and a 55% factor applied to female rates.
- The rates of retirement, withdrawal and disability were revised to reflect more closely actual experience.
- The estimated administrative expense as a percentage of covered payroll was increased from 0.35% to 0.40%.
- The single equivalent interest rate (SEIR) for the Local Government Division was lowered from 7.50% to 7.25%, reflecting the change in the long-term expected rate of return.

2015 changes

- The following programming changes were made:
    - Valuation of the full survivor benefit without reduction for possible remarriage.
    - Reflection of the employer match on separation benefits for all eligible years.
    - Reflection of one year of service eligibility for survivor annuity benefit.
    - Refinement of the 18-month AI timing.
    - Refinements to directly value certain and life, modified cash refund and pop-up benefit forms.
- The following methodology changes were made:
    - Recognition of merit salary increases in the first projection year.
    - Elimination of the assumption that 35% of future disabled members elect to receive a refund.
    - Removal of the negative value adjustment for liabilities associated with refunds of future terminating members.
    - Adjustments to the timing of the normal cost and unfunded actuarial accrued liability (UAAL) payment calculation to reflect contributions throughout the year.

2014 changes

- There were no changes made to actuarial methods or assumptions.

Colorado Housing and Finance Authority
Schedule of the Authority's Share of Net OPEB Liability
Last 10 Fiscal Years*
(in thousands of dollars)

	2020	2019	2018	2017
Proportion of the net OPEB liability	0.18%	0.19%	0.20%	0.18%
Proportionate share of net OPEB liability	$ 2,083	$ 2,541	$ 2,632	$ 2,398
Covered-employee payroll	$ 16,634	$ 15,994	$ 14,974	$ 14,091
Proportionate share of the net OPEB liability as a percentage of its covered-employee payroll	12.52%	15.89%	17.57%	17.02%
Plan fiduciary net position as a percentage of the total OPEB plan liability	24.49%	17.03%	17.53%	16.72%

* This schedule is intended to show information for 10 years. Additional years will be displayed as they become available.
The accompanying notes are an integral part of the Required Supplementary Information.

Colorado Housing and Finance Authority
Schedule of Authority Contributions
Health Care Trust Fund
Last 10 Fiscal Years*
(in thousands of dollars)

	2020	2019	2018	2017
Contractually required contribution	$ 170	$ 161	$ 153	$ 144
Contributions in relation to the contractually required contribution	170	161	153	144
Contribution deficiency	$ -	$ -	$ -	$ -
Covered-employee payroll	$ 16,634	$ 15,994	$ 14,974	$ 14,091
Contributions as a percentage of covered-employee payroll	1.02%	1.02%	1.02%	1.02%

* This schedule is intended to show information for 10 years. Additional years will be displayed as they become available.
The accompanying notes are an integral part of the Required Supplementary Information.

1) Significant changes in Plan Provisions Affecting Trends in Actuarial Information

2019 changes

- There were no changes made to plan provisions.

2018 changes

- There were no changes made to plan provisions.

2017 changes

- There were no changes made to plan provisions.

2016 changes

- There were no changes made to plan provisions.

2) Significant changes in Assumptions or Other Inputs Affecting Trends in Actuarial Information

2019 changes

- There were no changes made to actuarial methods or assumptions.

2018 changes

- There were no changes made to actuarial methods or assumptions.

2017 changes

- There were no changes made to actuarial methods or assumptions.

2016 changes

- The following methodology change was made:
  - The Entry Age Normal actuarial cost method allocation basis has been changed from a level dollar amount to a level percentage of pay.
- The following changes were made to the actuarial assumptions:
  - The investment rate of return assumption decreased from 7.50% to 7.25%.
  - The price inflation assumption decreased from 2.80% to 2.40%.
  - The wage inflation assumption decreased from 3.90% to 3.50%.
  - The mortality assumption for active members was changed to RP-2014 White Collar Employee Mortality Table, a table specifically developed for actively working people. To allow for an appropriate margin of improved mortality prospectively, the mortality rates incorporate a 70% factor applied to male rates and a 55% factor applied to female rates.
  - The post-retirement mortality assumption for healthy lives for the State and Local Government Divisions was changed to the RP-2014 Healthy Annuitant Mortality Table with adjustments for credibility and gender adjustments of a 73% factor applied to ages below 80 and a 108% factor applied to age 80 and above,

projected to 2018, for males, and a 78% factor applied to ages below 80 and a 109% factor applied to age 80 and above, projected to 2020, for females.

- For disabled retirees, the mortality assumption was changed to reflect 90% of RP-2014 Disabled Retiree Mortality Table.
- The assumed rates of withdrawal, retirement and disability have been adjusted to more closely reflect experience.
- The assumed rates of PERACare participation have been revised to reflect more closely actual experience.
- Initial per capita health care costs for those PERACare enrollees under the PERA benefit structure who are expected to attain age 65 and older ages and are not eligible for premium-free Medicare Part A benefits have been updated to reflect the change in costs for the 2017 plan year.
- The percentage of PERACare enrollees who will attain age 65 and older ages and are assumed to not qualify for premium-free Medicare Part A coverage have been revised to reflect more closely actual experience.
- The percentage of disabled PERACare enrollees who are assumed to not qualify for premium-free Medicare Part A coverage has been revised to reflect more closely actual experience.
- The health care cost trend rates for Medicare Part A premiums have been revised to reflect the then current expectation of future increases in rates of inflation applicable to Medicare Part A premiums.
- Assumed election rates for the PERACare coverage options that would be available to future PERACare enrollees who will qualify for the “No Part A Subsidy” when they retire have been revised to more closely reflect actual experience.
- Assumed election rates for the PERACare coverage options that will be available to those current PERACare enrollees, who qualify for the “No Part A Subsidy” but have not reached age 65, have been revised to more closely reflect actual experience.
- The rates of PERACare coverage election for spouses of eligible inactive members and future retirees was revised to reflect more closely actual experience.
- The assumed age differences between future retirees and their participating spouses have been revised to reflect more closely actual experience.

supplemental information

Colorado Housing and Finance Authority
Combining Schedule - Statement of Net Position

As of December 31, 2020

(with summarized financial information for December 31, 2019)

(in thousands of dollars)

	General Programs	Single Family	Multifamily/ Business	Eliminations	2020	Summarized 2019
Assets						
Current assets:						
Cash *(Note 2)*						
Restricted	$ 228,950	$ -	$ -	$ -	**$ 228,950**	$ 219,764
Unrestricted	70,222	-	-	-	**70,222**	68,915
Investments *(Note 2)*	9,421	127,026	162,485	-	**298,932**	300,672
Loans receivable *(Note 3)*	12,066	7,694	19,097	(1,682)	**37,175**	34,878
Loans receivable held for sale *(Note 3)*	231,084	-	-	-	**231,084**	224,437
Accrued interest receivable	5,282	5,587	984	(313)	**11,540**	11,832
Other assets	13,353	35	22	-	**13,410**	9,397
Due (to) from other programs	(13,917)	4,966	8,951	-	**-**	-
Total current assets	556,461	145,308	191,539	(1,995)	**891,313**	869,895
Noncurrent assets:						
Investments *(Note 2)*	15,663	26,513	46,951	-	**89,127**	46,754
Program investments (MBS)	-	1,423,379	-	-	**1,423,379**	1,085,128
Loans receivable, net *(Note 3)*	349,927	223,139	553,808	(48,789)	**1,078,085**	1,011,461
Capital assets - nondepreciable *(Note 4)*	1,930	-	-	-	**1,930**	1,783
Capital assets - depreciable, net *(Note 4)*	10,673	-	-	-	**10,673**	11,180
Other real estate owned, net	881	51	(121)	-	**811**	679
Other assets	57,236	-	-	-	**57,236**	53,613
Total noncurrent assets	436,310	1,673,082	600,638	(48,789)	**2,661,241**	2,210,598
Total assets	992,771	1,818,390	792,177	(50,784)	**3,552,554**	3,080,493
Deferred outflows of resources						
Accumulated increase in fair value of hedging derivatives	-	26,848	89,227	-	**116,075**	82,933
Pension and OPEB contributions and investment earnings	3,278	-	-	-	**3,278**	6,123
Refundings of debt	-	141	1,033	-	**1,174**	1,018
Total deferred outflows of resources	3,278	26,989	90,260	-	**120,527**	90,074
Liabilities						
Current liabilities:						
Short-term debt *(Note 5)*	177,891	-	-	-	**177,891**	178,000
Bonds payable *(Note 6)*	-	108,757	196,825	-	**305,582**	46,438
Notes payable *(Note 6)*	57	-	-	-	**57**	57
Hybrid instrument borrowings *(Note 8)*	-	759	808	-	**1,567**	1,760
Accrued interest payable	320	6,887	4,676	(313)	**11,570**	11,098
Federally assisted program advances	280	-	-	-	**280**	505
Accounts payable and other liabilities	207,535	314	1,893	-	**209,742**	218,394
Total current liabilities	386,083	116,717	204,202	(313)	**706,689**	456,252
Noncurrent liabilities:						
Bonds payable *(Note 6)*	193	1,517,171	498,667	-	**2,016,031**	1,954,963
Derivative instruments	4,203	25,812	89,402	-	**119,417**	81,133
Hybrid instrument borrowings *(Note 8)*	-	2,036	2,945	-	**4,981**	6,360
Net pension and OPEB liability - proportionate share	19,777	-	-	-	**19,777**	32,816
Notes payable *(Note 6)*	51,082	-	-	(50,471)	**611**	668
Other liabilities *(Note 6)*	49,307	-	-	-	**49,307**	41,508
Total noncurrent liabilities	124,562	1,545,019	591,014	(50,471)	**2,210,124**	2,117,448
Total liabilities	510,645	1,661,736	795,216	(50,784)	**2,916,813**	2,573,700
Deferred inflows of resources						
Accumulated decrease in fair value of hedging derivatives	-	1,273	1,708	-	**2,981**	3,019
Pension and OPEB investment differences	6,855	-	-	-	**6,855**	1,438
Total deferred inflows of resources	6,855	1,273	1,708	-	**9,836**	4,457
Net position						
Investment in capital assets, net of related debt	12,603	-	-	(10,471)	**2,132**	2,172
Restricted by grants	11,065				**11,065**	-
Restricted primarily by bond indentures	15,739	182,370	85,513	(40,000)	**243,622**	174,997
Unrestricted *(Note 11)*	439,142	-	-	50,471	**489,613**	415,241
Total net position	$ 478,549	$ 182,370	$ 85,513	$ -	**$ 746,432**	$ 592,410

Colorado Housing and Finance Authority
Combining Schedule - Statement of Revenues, Expenses and Changes in Net Position

For the year ended December 31, 2020

(with summarized financial information for the year ended December 31, 2019)

(in thousands of dollars)

	General Program	Single Family	Multifamily/ Business	Eliminations	**2020**	Summarized 2019
Interest income and expense:						
Interest on loans receivable	$ 12,887	$ 9,930	$ 25,237	$ (1,529)	**$ 46,525**	$ 53,150
Interest on investments	1,040	50,190	1,955	-	**53,185**	42,800
Interest on debt	(4,638)	(47,108)	(22,499)	1,529	**(72,716)**	(65,211)
Net interest income	9,289	13,012	4,693	-	**26,994**	30,739
Other operating income (loss):						
Loan servicing income	43,293	-	(2)	-	**43,291**	37,656
Gain on sale of loans	128,425	-	-	-	**128,425**	106,014
Investment derivative activity gain	(5,812)	228	476	-	**(5,108)**	4,774
Net increase (decrease) in the fair value of investments	(67)	51,498	1,041	-	**52,472**	46,266
Other revenues	13,551	26	-	-	**13,577**	13,192
Total other operating income	179,390	51,752	1,515	-	**232,657**	207,902
Total operating income	188,679	64,764	6,208	-	**259,651**	238,641
Operating expenses:						
Salaries and related benefits	20,613	-	-	-	**20,613**	20,343
General operating	89,508	4,853	(1,584)	-	**92,777**	89,834
Depreciation	913	-	-	-	**913**	1,006
Provision for losses	2,046	259	86	-	**2,391**	2,538
Total operating expenses	113,080	5,112	(1,498)	-	**116,694**	113,721
Net operating income	75,599	59,652	7,706	-	**142,957**	124,920
Nonoperating income and expenses:						
Grant revenues	193,872	-	-	-	**193,872**	146,397
Grant expenses	(182,807)	-	-	-	**(182,807)**	(146,397)
Total nonoperating income and expenses, net	11,065	-	-	-	**11,065**	-
Income before transfers	86,664	59,652	7,706	-	**154,022**	124,920
Transfers from (to) other programs	5,899	(354)	(5,545)	-	**-**	-
Change in net position	92,563	59,298	2,161	-	**154,022**	124,920
Net position:						
Beginning of year	385,986	123,072	83,352	-	**592,410**	467,490
End of year	$ 478,549	$ 182,370	$ 85,513	$ -	**$ 746,432**	$ 592,410

Colorado Housing and Finance Authority

Combining Schedule - Statement of Cash Flows

For the year ended December 31, 2020

(with summarized financial information for the year ended December 31, 2019)

(in thousands of dollars)

	General Program	Single Family	Multifamily/ Business	Eliminations	**2020**	Summarized 2019
Cash flows from operating activities:						
Principal payments received on loans receivable						
& receipts from dispositions of other real estate owned	$ 470,885	$ 57,167	$ 32,636	$ (320)	**$ 560,368**	$ 638,330
Interest payments received on loans receivable	13,253	10,088	25,335	(1,253)	**47,423**	52,642
Payments for loans receivable	(3,200,596)	(21,190)	(83,325)	-	**(3,305,111)**	(3,061,626)
Receipts from sales of Ginnie Mae securities	2,795,078	-	-	-	**2,795,078**	2,480,642
Changes in servicing escrows	(6,491)	-	-	-	**(6,491)**	93,414
Receipts from other revenues	56,438	27	(4)	-	**56,461**	45,734
Payments for salaries and related benefits	(34,252)	-	-	-	**(34,252)**	(18,859)
Payments for goods and services	(86,056)	(4,888)	1,156	-	**(89,788)**	(98,206)
All other, net	4,488	633	118	-	**5,239**	(2,049)
Net cash provided by operating activities	12,747	41,837	(24,084)	(1,573)	**28,927**	130,022
Cash flows from noncapital financing activities:						
Net increase (decrease) in short-term debt	(109)	-	-	-	**(109)**	(59,500)
Proceeds from issuance of bonds	-	468,766	172,040	-	**640,806**	870,864
Receipts from federal grant programs	192,496	-	-	-	**192,496**	151,908
Payments for federal grant programs	(182,807)	-	-	-	**(182,807)**	(146,397)
Principal paid on bonds	(2,669)	(270,188)	(57,415)	-	**(330,272)**	(244,315)
Principal paid on notes payable	(57)	-	-	-	**(57)**	(138)
Interest rate swap activity, net	-	259	67	-	**326**	-
Interest paid on short-term debt	(1,860)	-	-	-	**(1,860)**	(5,628)
Interest rate swap settlements	-	(7,806)	(10,787)	-	**(18,593)**	(13,639)
Interest paid on bonds	179	(30,272)	(12,550)	(276)	**(42,919)**	(31,595)
Interest paid on notes payable	(1,198)	-	-	-	**(1,198)**	(1,153)
Transfers to (from) other programs	8,093	(614)	(7,479)	-	**-**	-
Net cash provided by (used in) noncapital financing activities	12,068	160,145	83,876	(276)	**255,813**	520,407
Cash flows from capital and related financing activities:						
Purchase of capital assets	(553)	-	-	-	**(553)**	(82)
Principal paid on capital-related debt	(320)	-	-	320	**-**	-
Interest paid on capital-related debt	(1,529)	-	-	1,529	**-**	-
Net cash provided by (used in) capital and related financing activities	(2,402)	-	-	1,849	**(553)**	(82)
Cash flows from investing activities:						
Proceeds from maturities and sales of investments	2,561,455	1,581,171	323,107	-	**4,465,733**	4,898,865
Purchase of investments	(2,574,070)	(1,832,855)	(386,615)	-	**(4,793,540)**	(5,460,222)
Income received from investments	695	49,702	3,716	-	**54,113**	40,836
Net cash provided by (used in) investing activities	(11,920)	(201,982)	(59,792)	-	**(273,694)**	(520,521)
Net increase in cash	10,493	-	-	-	**10,493**	129,826
Cash at beginning of year	288,679	-	-	-	**288,679**	158,853
Cash at end of year	$ 299,172	$ -	$ -	$ -	**$ 299,172**	$ 288,679
Restricted	$ 228,950	$ -	$ -	$ -	**$ 228,950**	$ 219,764
Unrestricted	70,222	-	-	-	**70,222**	68,915
Cash, end of year	$ 299,172	$ -	$ -	$ -	**$ 299,172**	$ 288,679

Continued on the next page.

Colorado Housing and Finance Authority

Combining Schedule - Statement of Cash Flows ***(continued)***

For the year ended December 31, 2020

(with summarized financial information for the year ended December 31, 2019)

(in thousands of dollars)

	General Program	Single Family	Multifamily/ Business	Eliminations	**2020**	Summarized 2019
Reconciliation of operating income to net cash provided by (used in) operating activities:						
Net operating income	$ 75,599	$ 59,652	$ 7,706	$ -	**$ 142,957**	$ 124,920
Adjustments to reconcile operating income (loss) to net cash provided by (used in) operating activities:						
Depreciation expense	913	-	-	-	**913**	1,006
Amortization and fair value adjustments of service release premiums	29,447	-	-	-	**29,447**	34,752
Proportionate share of net pension and OPEB expense	(4,777)	-	-	-	**(4,777)**	(3,142)
Amortization of imputed debt associated with swaps	-	(1,013)	(890)	-	**(1,903)**	(7,939)
Provision for losses	2,046	259	86	-	**2,391**	2,538
Interest on investments	(1,040)	(50,187)	(1,956)	-	**(53,183)**	(42,795)
Interest on debt	4,638	48,121	23,388	(1,529)	**74,618**	73,149
Unrealized gain on investment derivatives	5,812	(228)	(476)	-	**5,108**	(4,774)
Unrealized (gain) loss on investments	67	(51,500)	(1,041)	-	**(52,474)**	(46,269)
(Gain) loss on sale of real estate owned	56	(26)	-	-	**30**	48
Gain on sale of loans	(128,425)	-	-	-	**(128,425)**	(106,014)
Changes in assets and liabilities:						
Loans receivable and other real estate owned	35,864	36,003	(50,689)	(320)	**20,858**	22,546
Accrued interest receivable on loans and investments	366	158	98	276	**898**	(508)
Other assets	(5,642)	598	118	-	**(4,926)**	(5,330)
Accounts payable and other liabilities	(2,177)	-	(428)	-	**(2,605)**	87,834
Net cash provided by (used in) operating activities	$ 12,747	$ 41,837	$ (24,084)	$ (1,573)	**$ 28,927**	$ 130,022

Colorado Housing and Finance Authority

Schedule of Adjusted Net Worth

At December 31, 2020

(in thousands of dollars)

A.	Adjusted net worth calculation:		
	Net position per statement of net position at end of reporting period		$ 746,432
	Less:		
	Itemized unacceptable assets		
	1. Other assets	$ 70,646	
	2.		
	3.		
	Total unacceptable assets		70,646
	Adjusted net worth		$ 675,786
B.	Required net worth calculation:		
	Unpaid principal balance (UPB) of securities outstanding (Note: number of pools = 939)		$ 5,945,295
	Plus:		
	Outstanding balance of available commitment authority and pools funded		1,412,847
	Total outstanding portfolio, commitment authority and pools funded		$ 7,358,142
	Required net worth		$ 28,253
C.	Excess net worth (Adjusted net worth - required net worth)		$ 647,533

Colorado Housing and Finance Authority
Schedule of Other Assets
At December 31, 2020
(in thousands of dollars)

A.	Accrued interest income	$	11,540
B.	Deferred debt cost of issuance		-
C.	Other real estate owned		811
	Total other asset included in adjusted net worth	$	12,351
D.	Other assets excluded from adjusted net worth		70,646
	Total current and noncurrent other assets	$	82,997

Colorado Housing and Finance Authority

Liquid Asset Requirement Calculation for Issuers

At December 31, 2020

(in thousands of dollars)

A.	Liquid asset calculation:			
	Required net worth (Schedule of Adjusted Net Worth, section B)		$ 28,253	
	Acceptable liquid assets			
	1. Unrestricted cash	$ 70,222		
	2.			
	3.			
	4.			
	5.			
	6.			
	Total liquid assets		$ 70,222	
B.	Required liquid asset:			
				Meets requirements?
	Single family issuer liquidity requirement (Greater of $1 million or 0.10% of outstanding single family securities)		$ 5,945	Yes / No

Colorado Housing and Finance Authority
Capital Requirement Calculation for Issuer
At December 31, 2020
(in thousands of dollars)

A. Capital requirement for depository institutions: not applicable to CHFA

Tier 1 capital	$ ________	
Total capital	$ ________	
Risk-based assets	$ ________	
Total assets	$ ________	
Tier 1 capital/total assets		________ %
Tier 1 capital/risk-based assets		________ %
Total capital/risk-based assets		________ %

		Meets requirement?
5% of tier 1 capital/total assets	$ ________	Yes / No
6% of tier 1 capital/risk-based assets	$ ________	Yes / No
10% of total capital/risk-based assets	$ ________	Yes / No

B. Capital requirement for nondepository institutions:

Total adjusted net worth	$ 675,786
Total assets	$ 3,552,554

		Meets requirement?
Total adjusted net worth/total assets	19.02 %	Yes / No

Colorado Housing and Finance Authority
Schedule of Insurance Requirement
At December 31, 2020
(in thousands of dollars)

A.	Identification of affiliated Ginnie Mae Issuers		
	Affiliated Ginnie Mae issuers:		None
B.	Required insurance calculation:		
	Servicing portfolio:		
	Ginnie Mae	$	5,945,295
	Fannie Mae		1,315,224
	Freddie Mac		211,333
	Conventional (other)		1,355,023
	Total servicing portfolio	$	8,826,875
	Required fidelity bond coverage	$	9,352
	Required mortgage servicing errors and omissions coverage	$	9,352
C.	Verification of insurance coverage:		
	Fidelity bond coverage at end of reporting period	$	10,000
	Mortgage servicing errors and omissions coverage at end of reporting period	$	10,000
D.	Excess insurance coverage:		
	Fidelity bond coverage	$	648
	Required mortgage servicing errors and omissions coverage	$	648
E.	Policies contain the required elements		
	Fidelity bond coverage		Yes No
	Mortgage servicing errors and omissions coverage		Yes No

The Authority certifies that it is in good standing with FHA, Fannie Mae and Freddie Mac, and has not been the subject of any adverse actions.

hud reporting

chfa®

Independent Auditor's Report on Compliance for the Major HUD Program and Report on Internal Control Over Compliance Required by the *Consolidated Audit Guide for Audits of HUD Programs*

Board of Directors
Colorado Housing and Finance Authority

Report on Compliance for the Major HUD Program
We have audited Colorado Housing and Finance Authority's (the Authority) compliance with the compliance requirements described in the *Consolidated Audit Guide for Audits of HUD Programs* (the Audit Guide) that could have a direct and material effect on the Authority's major U.S. Department of Housing and Urban Development (HUD) program for the year ended December 31, 2020. Colorado Housing and Finance Authority's major HUD program and the related direct and material compliance requirements are as follows:

Name of Major HUD Program	Direct and Material Compliance Requirements
Government National Mortgage Association issuers of mortgage-backed securities	• Federal financial reports • Eligibility to issue mortgage-backed securities • Review of custodial documents • Issuer's administration of pooled mortgages • Review of monthly accounting reports and quarterly submissions • Securities marketing and trading practices • Adjusted net worth • Capital, liquid asset and insurance requirements

Management's Responsibility
Management is responsible for compliance with the requirements of laws, regulations, contracts and grants applicable to its HUD programs.

Auditor's Responsibility
Our responsibility is to express an opinion on compliance for the Authority's major HUD program based on our audit of the compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the Audit Guide. Those standards and the Audit Guide require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the compliance requirements referred to above that could have a direct and material effect on a major HUD program occurred. An audit includes examining, on a test basis, evidence about the Authority's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for the major HUD program. However, our audit does not provide a legal determination of the Authority's compliance.

Opinion on the Major HUD Program

In our opinion, the Authority complied, in all material respects, with the compliance requirements referred to above that could have a direct and material effect on the major HUD program for the year ended December 31, 2020.

Other Matters

Ginnie Mae issued All Participant Memorandum 20-14: Alternative Procedures Permitted for Certain Aspects of Issuer Annual Audit Report for Fiscal Year 2020 (APM 20-14) related to Chapter 6 of the Audit Guide associated with the review of the processes and controls of document custodian(s) associated with the Issuer. The current restrictions due to COVID-19 limiting the performance of audit procedures at business sites necessitated the use of alternative procedures. The procedures in the Audit Guide related to inspection of original, endorsed or certified copies of loan, pool and other documents, or copies, if the copies clearly show the document recording information, were performed remotely in lieu of an on-site inspection using copies or electronic versions of such documents. When observations were required to be performed on-site in accordance with the Audit Guide, virtual observations were performed.

Report on Internal Control Over Compliance

Management of the Authority is responsible for establishing and maintaining effective internal control over compliance with the compliance requirements referred to above. In planning and performing our audit of compliance, we considered the Authority's internal control over compliance with the requirements that could have a direct and material effect on the major HUD program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for the major HUD program and to test and report on internal control over compliance in accordance with the Audit Guide, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control over compliance.

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a compliance requirement of a HUD program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a compliance requirement of a HUD program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a compliance requirement of a HUD program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Audit Guide. Accordingly, this report is not suitable for any other purpose.

RSM US LLP

Denver, Colorado
March 25, 2021

Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With *Government Auditing Standards*

Independent Auditor's Report

Board of Directors
Colorado Housing and Finance Authority

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States, the financial statements of the Colorado Housing and Finance Authority (the Authority) as of and for the year ended December 31, 2020, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements, and have issued our report thereon dated March 25, 2021.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Authority's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters
As part of obtaining reasonable assurance about whether the Authority's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards.*

Purpose of This Report
The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

RSM US LLP

Denver, Colorado
March 25, 2021

Prepared by:
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