



# REPORT TO THE LEGISLATURE ON CREDIT CARD PILOT PROGRAM

In Compliance With Public Utilities Code Section 915

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**California Public  
Utilities Commission**

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## I. REPORT SUMMARY

This report provides three findings based on assessments required by Public Utilities Code Section 915. The first finding is that California American Water Company (Cal Am) experienced a significant increase of low-income customers using credit card payments after transaction fees are removed.<sup>1</sup> The results for Golden State Water Company's (Golden State) and Great Oaks Water Company's (Great Oaks) low-income customers did not indicate a significant increase in credit card use when transaction fees are removed. The second finding is that household debt burden and cost of water service increases when customers choose to pay their water bills using credit card payments and pay the minimum amount on a monthly credit card bill. The third finding is that more customers are using card payments and the cost-effectiveness is dependent on the type of payment a customer is transitioning from. The transition of customers from in-person to card transactions is cost-effective while the transition from other forms of payments (mail, Automated Clearing House or ACH, and electronic check) to card transactions is cost-ineffective. The report's findings focus on data prior to March 2020 to avoid outlier results caused by COVID-19.

The California Public Utilities Commission (CPUC) recommends that if the Legislature proposes to mandate a permanent waiver of transaction fees for individuals paying by credit card, the waiver should be limited to low-income customers, which will provide additional rate relief.

## II. LEGISLATIVE BACKGROUND

California Assembly Bill (AB) 1180 (Garcia, 2016) created Public Utilities (PU) Code Sections 755.5 and 915, which requires the CPUC to analyze and report to the Legislature whether more customers pay their water bills via credit card when transaction fees are removed.<sup>2</sup> PU Code 755 grants electric, natural gas, and water utilities the authority to charge customers a transaction fee for paying their utility bill by credit, debit, or prepaid card to cover the bank interchange fees associated with the transaction, unless the CPUC determines that the use of credit/debit cards results in no net cost to the utility.

AB 1180 created a pilot program that would require participating water utilities to: (1) waive the transaction fee for customers paying by credit card, debit card, and prepaid card; recover the costs of operating the pilot program from customers other than low-income customers; (2) notify customers of the temporary nature of the pilot program; and (3) collect information on the various forms of payment, including, but not limited to, costs, customer utilization, and customer expectations and satisfaction.

Pursuant to PU Code 755.5, the adopted pilot program requires Class A water utilities, utilities with over 10,000 connections, to submit a request of approval to participate through their General Rate Case applications, which occur once every three years and is limited to the duration of the water corporation's rate case cycle. The three Class A water utilities that requested authorization to participate in the credit card pilot program are California American Water Company, Golden State Water Company, and Great Oaks Water Company. The Commission authorized California American Water Company to participate in the credit card pilot program starting June 15, 2017. Golden State Water Company was authorized to participate in the pilot starting May 30, 2019. Great Oaks Water Company was authorized to participate in the pilot program starting September 12, 2019.

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<sup>1</sup> A low-income customer is defined as a household that participates in the water utility's assistance program.

<sup>2</sup> The Legislative Digest for AB 1180 is available at:

[https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\\_id=201520160AB1180](https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160AB1180)

PU Code Section 915 requires the CPUC to report on the pilot programs operated by water corporations pursuant to PU Code Section 755.5 that includes: 1) an assessment of the use of credit cards by low-income customers to avoid service disconnections; 2) an assessment of impact of the use of credit cards for customer bills on household debt burden; and 3) an assessment of data, considered on an aggregated basis, regarding customer utilization and the cost-effectiveness of the bill payment options.

Based on these assessments, and an assessment of the customers' interests served by providing these bill payment options, the report shall evaluate the usefulness of the individual customer transaction fee required by Section 755. The report will also include a recommendation regarding individual customer transaction fees for credit card, debit card, and prepaid card payments accepted by water corporations.

In compliance with PU Code Section 915, the Commission hereby submits this report to the Assembly Committee on Utilities and Commerce, and the Senate Committee on Energy, Utilities and Communications.

### III. INTRODUCTION AND FINDINGS

More customers are transitioning to card payments for utility bills regardless of the transaction fee. In March 2020, the water utility offices were shut down to reduce the spread of COVID-19. As a result, customers used electronic payments as an alternative to mail-in and in-person payments. Data requests were submitted to utilities two years prior to the transaction fee waivers to determine whether more customers preferred card payments.

The first data request to the utilities detailed an analysis of the number of low-income customers that used card payments. After reviewing the data, Cal Am shows a statistically significant increase in low-income customers using card payments after transaction fee waivers.<sup>3</sup> Golden State and Great Oaks did not show a statistically significant increase in low-income customers that chose card payments until the COVID-19 pandemic. The recent increase reflects the closure of utility offices and that many low-income households must find alternative methods to in-person payments for water bills. This report focuses on the data prior to March 2020. This was done due to the months related to post-COVID-19 emergence resulting in statistical outlier results during the data analysis.

The household debt burden was analyzed by assuming that a customer only charges their water bill on a hypothetical credit card that accrues interest daily over a 12-month period. The analysis incorporated bills with and without transaction fees where the results indicated the difference in bills was due to interest and continued adding transaction fees. The analysis indicates that paying a utility bill using a card payment increased the household debt burden if the customer only paid the minimum amount on the credit card bill.

Data requests were submitted to utilities to determine customer utilization, and the approximate costs associated with different payment methods beginning two years prior to the waiver of transaction fees. Year-over-year, more customers are moving away from mail-in and in-person transactions and shifting towards electronic methods, including card payments. The results showed a decrease in utility costs borne by ratepayers when customers transition from in-person payments to card payments, but an increase in costs when customers switch from other forms of payments, such as mail, ACH, and electronic check.

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<sup>3</sup> A least-squares regression analysis and t-test were used to determine whether utilities displayed a statistically significant increase in low-income customers using card payments.

#### IV. REQUIRED ASSESSMENTS

Water utilities that chose to participate in the AB 1180 pilot program required Commission authorization through their General Rate Cade (“GRC”) application. Three Investor-Owned Utilities (IOUs) requested to participate in the pilot program: California American Water Company (“Cal Am”), Golden State Water Company (“Golden State”), and Great Oaks Water Company (“Great Oaks”), where their transaction fees of \$1.95, \$1.45, and \$1.95, respectively. Transaction fees are paid directly to a third-party company handling the credit card transactions. Cal Am submitted Application (A.) 16-01-002 on July 1, 2016, requesting to participate in AB 1180’s credit card pilot program. The application was approved in Decision (D.)17-06-008, and Cal Am began implementing fee waivers on May 15, 2019. Golden State submitted application A.17-07-010 on July 19, 2017, and it was approved in D.19-05-044 on May 30, 2019. However, Golden State began waiving transaction fees beginning January 1, 2019. Great Oaks submitted A.18-07-002 on July 2, 2018, and the application was approved in D.19-09-010 on September 12, 2019. However, Great Oaks began waiving transaction fees beginning July 1, 2019. Table 1 displays each utility’s transaction fees, application number, date fee waivers began, and decision date.

**Table 1: Utility Transaction Fees and Application Information**

Utility	Transaction Fees	Application	Date Fee Waivers Began	Decision Date
Cal Am	\$1.95	A.16-01-002	May 15, 2019	6/15/17
Golden State	\$1.45	A.17-07-010	January 1, 2019	5/30/19
Great Oaks	\$1.95	A.18-07-002	July 1, 2019	9/12/19

Data requests were submitted to each utility to determine: 1) the number of low-income customers that paid their utility bills using a credit, debit, or prepaid card to avoid disconnections; 2) the different payment methods available; 3) the approximate costs of the different payment methods the utility incurs; and 4) the number of transactions for each payment method. Data was requested for 2 years prior to transaction fees being waived to observe the trends before and after utilities requested to participate in the AB 1180 credit card pilot program.

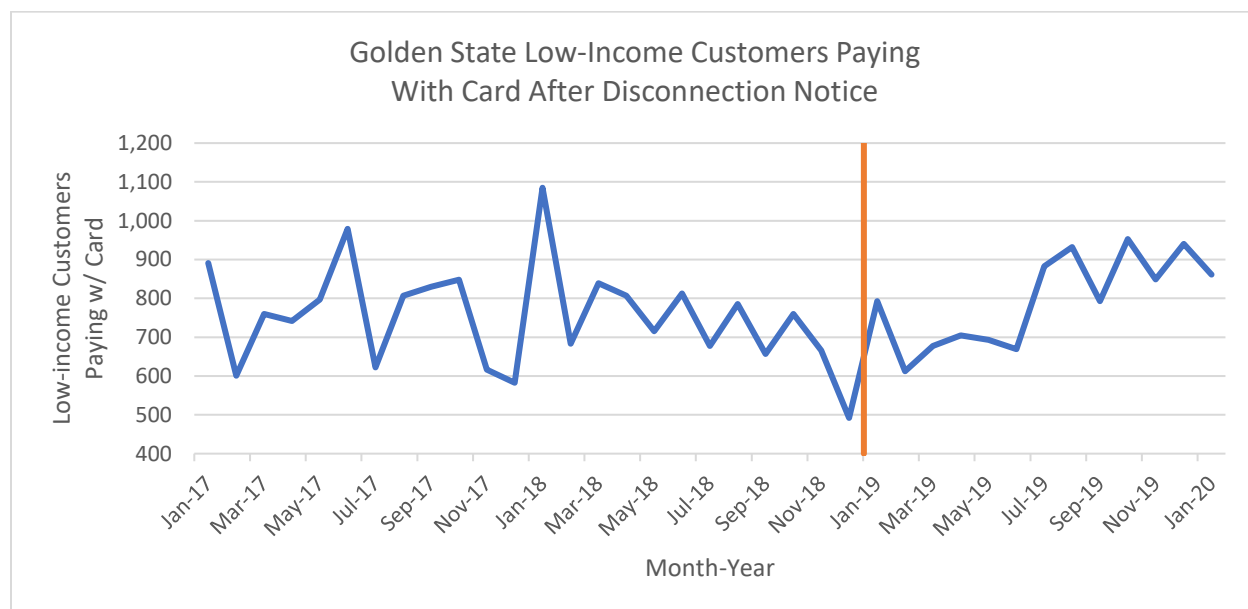
The sections below provide a summary and analysis based on data provided by the IOUs from data requests submitted to the CPUC. Initial data requests provided information past March 2020, but the COVID-19 pandemic created outlier in the data and favored card payments due to utility office closures. The report focuses on data prior to March 2020, and data after the start of COVID-19 was removed from the analysis.

#### 1. Mixed Response from Low-Income Customers Transitioning to Card Payments After Transaction Fee Waiver.

Credit card use is becoming more frequent due the ease of digital transactions. As a result, an increasing number of households pay their utility bills using a credit card. Public Utilities Code Section 755 requires transaction fees to be paid by customers that choose credit, debit, or prepaid card payment options. The cost burden should not be shifted to customers that do not choose to pay a bill by these options unless

and until the Commission determines that the savings to ratepayers exceeds the net cost of accepting payments by these options. The first assessment in this report is to evaluate the use of credit, debit, or prepaid cards (card payment or credit cards) by low-income customers to avoid service disconnections.<sup>4</sup> CPUC Water Division collected data on the actions taken when low-income customers receive a disconnection notice from the utility, then decide to pay their utility bill using a credit, debit, or prepaid card. Data requests were also submitted to the utilities on for data on low-income customers that paid their utility bills after receiving a disconnection notice.

Only Golden State provided data on the number of low-income customers that received a disconnection notice and chose to pay their bill using a credit card. The vertical line in Figures 1, 3, 5, and 7 represent the date that utilities began waiving fees as indicated in Table 1.



**Figure 1: Golden State Low-Income Customers Paying with Card After Disconnection Notice**

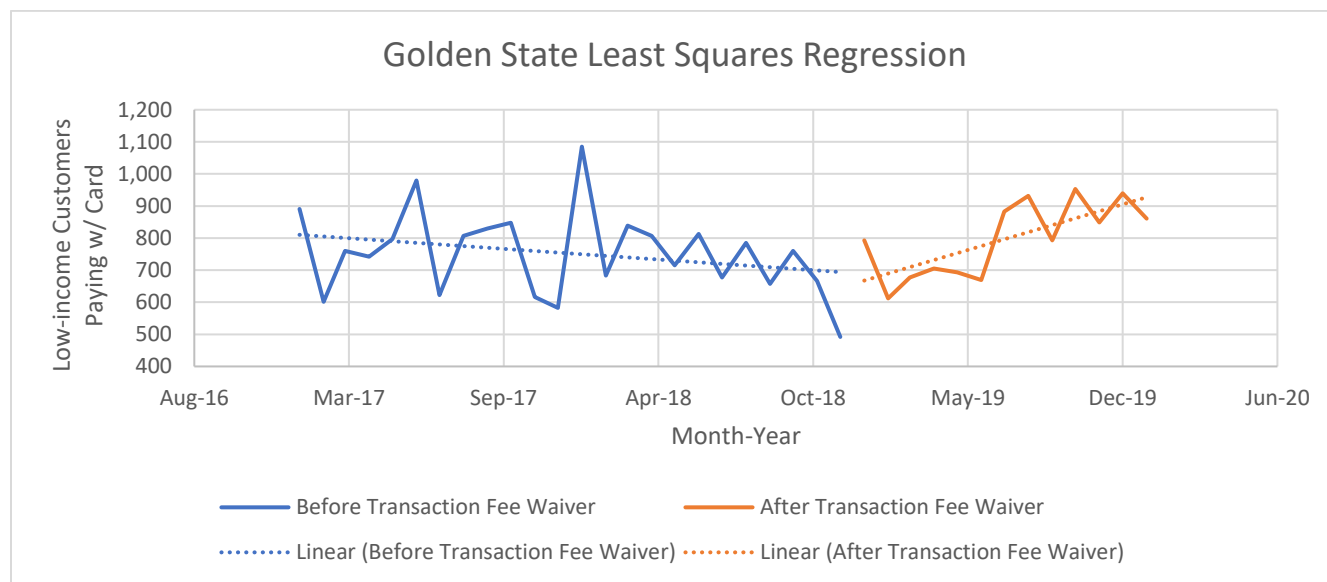
Figure 1, does not show an impact for customers that chose to pay their utility bill using card payment after they received a disconnection notice. There is a downward trend in customers that chose to pay using card payment between February 2019 and July 2019. There was an initial increase in low-income customers using card payments in August 2019 and became stagnant until January 2020. After January 2020, the number of low-income customers making a card payment that received a disconnection notice dropped significantly primarily due to the beginning of the COVID-19 pandemic, the economic impact which began in March 2020. During this time, utilities were ordered to stop disconnections and reconnect customers that were previously disconnected. The data prior to COVID-19 indicates no significant increase in credit card usage after transaction fees were waived compared to the two years of data prior to when transaction fees were removed.

Figure 2, provides results of two least-squares regression analyses conducted to determine whether transaction fee waivers increased or decreased low-income customer utilization of card payments. A least-squares regression determines the line of best fit for data points. From the line of best fit, we can determine that a line trending upwards indicates an increase in low-income customers using credit cards

<sup>4</sup> See note 1.

and a downward trend indicates less customers using credit cards. Prior to transaction fee waivers, the regression resulted in a downward trend. After the transaction fee waiver, there is an upward trend for low-income customers that chose to make a card payment.

A further analysis was conducted to determine the relationship between the two trends by performing a t-test. This test determines whether there is a difference between the trends before and after transaction fee waivers. The t-test indicated that no significant difference was observed between before and after the transaction fees were waived.



**Figure 2 Golden State Least Squares Regression**

The responses from Cal Am and Great Oaks indicated that they were not able to distinguish when customers received a disconnection notice and whether the customers chose to pay with a credit card after receiving the notice. Cal Am and Great Oak’s utility billing systems do not track the disconnection notices sent to customers. However, Great Oaks did provide data on the number of low-income customers that paid their bills using credit card after receiving disconnections and is displayed in Table 2 below.

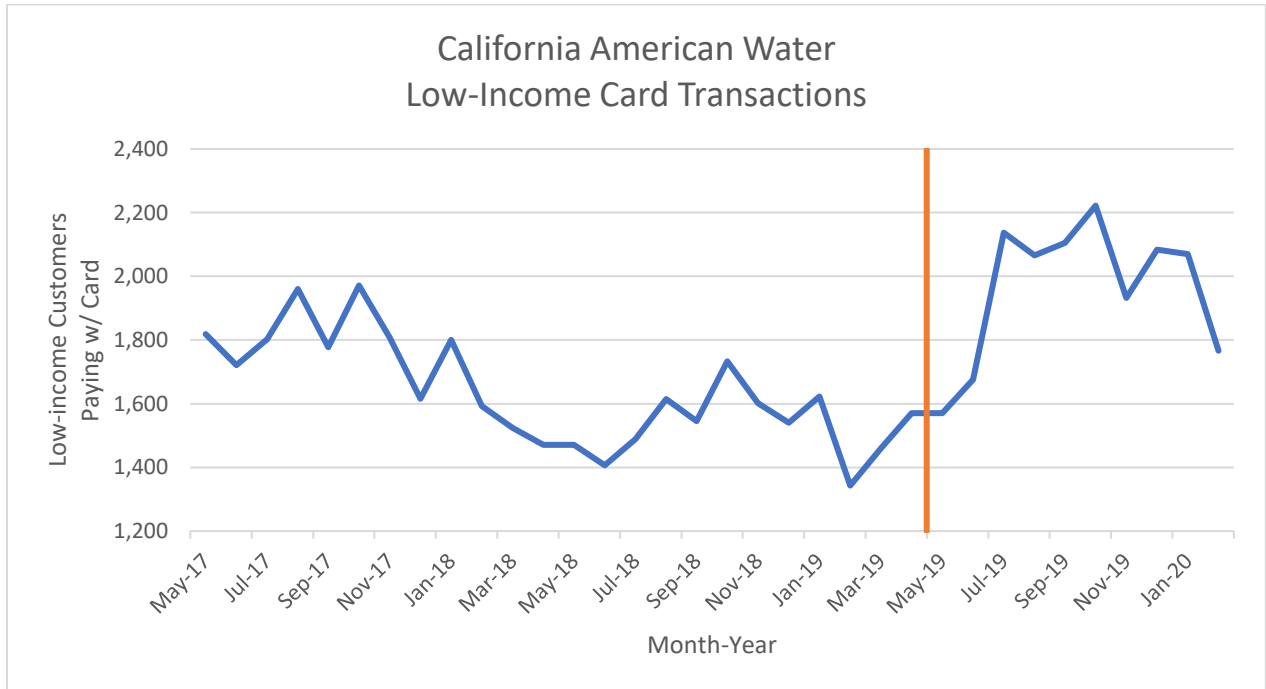
**Table 2: Great Oaks Low-Income Households Reconnect Using Card Payment**

Month/Year	Low Income Households Reconnect Using Credit Cards
Jul-17	81
Jul-18	103
Jul-19	35

Due to a lack of information provided by the Cal Am and Great Oaks, an alternative was proposed by Assemblywoman Garcia’s office to collect data on all low-income customers who used card payments, as opposed to only low-income customers that received a disconnection notice. The broader alternative was used to determine whether there was positive correlation between when transaction fees were waived and use of credit card payments. Figures 3 through 8 below show the results from data requests to utilities

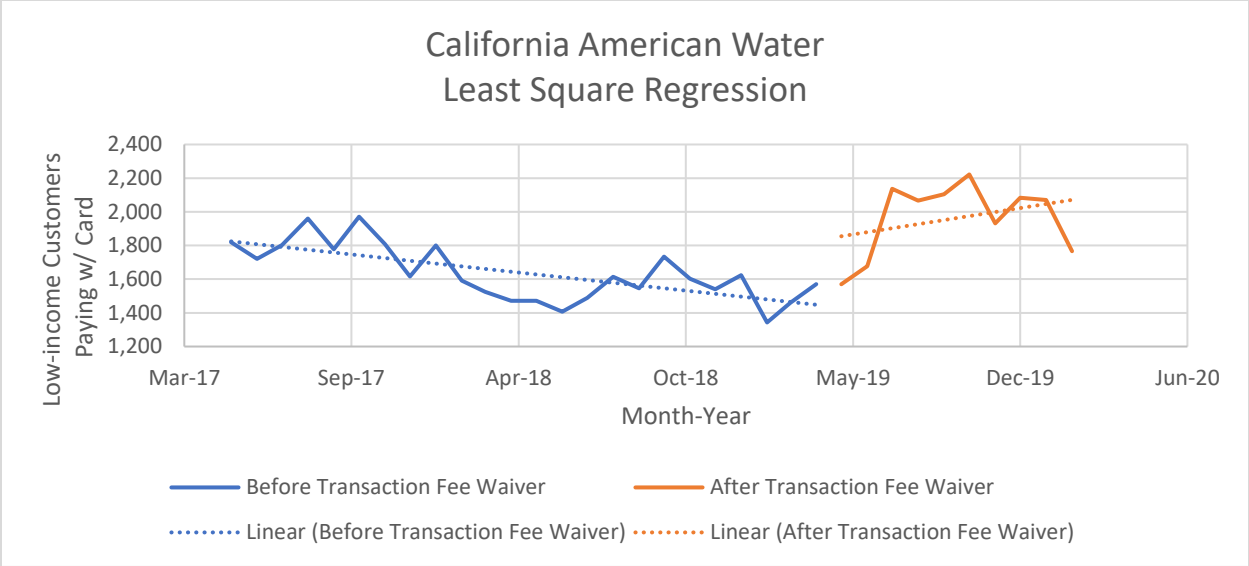


requesting the number of low-income customers that used card payments to pay their bill. The vertical line in each figure represents the date that utilities began waiving fees.



**Figure 3 Cal Am Low-Income Credit Card Users**

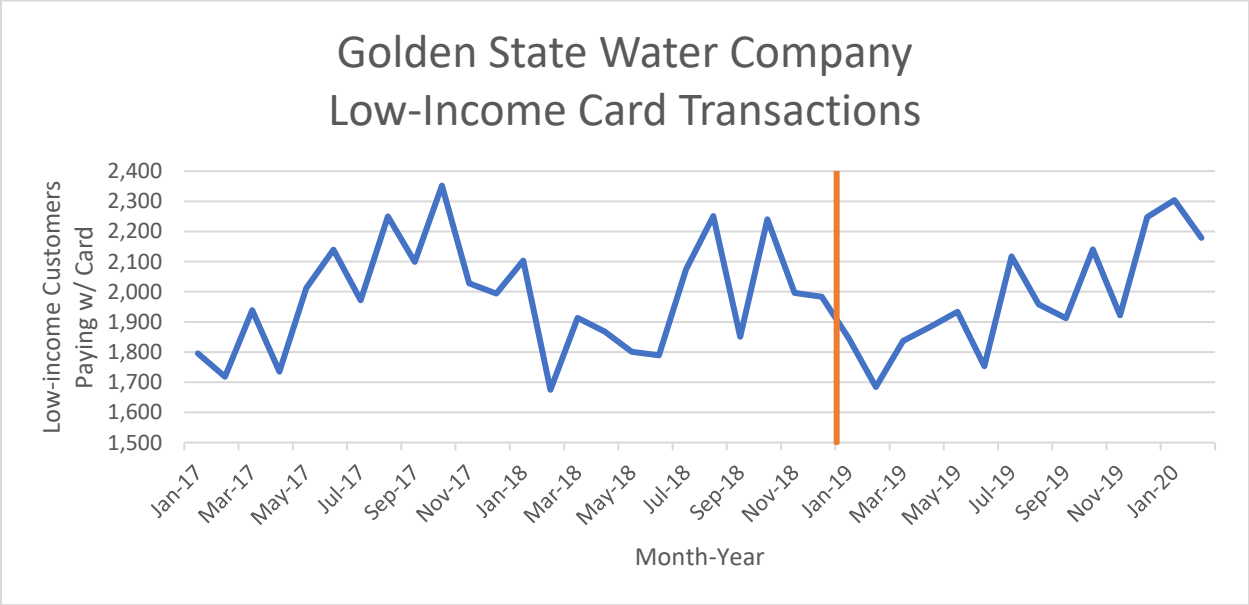
The data from Figure 3 shows an initial increase in low-income customers that pay using credit cards after transaction fees were waived. Following the initial increase in low-income customer credit card use, between July 2019 and February 2020, credit card transactions trended downwards. Before the start of COVID-19, credit card use returned to levels existing in 2017 and 2018, and before the transaction fees were waived. From March 2020 through July 2020 (not shown in Figure 3), there was an increase in card transactions due to the COVID-19 pandemic causing utility offices to be closed. Customers were then required to find alternatives to cash and in-person payments to pay their water bills.



**Figure 4 Cal Am Least Squares Regression**

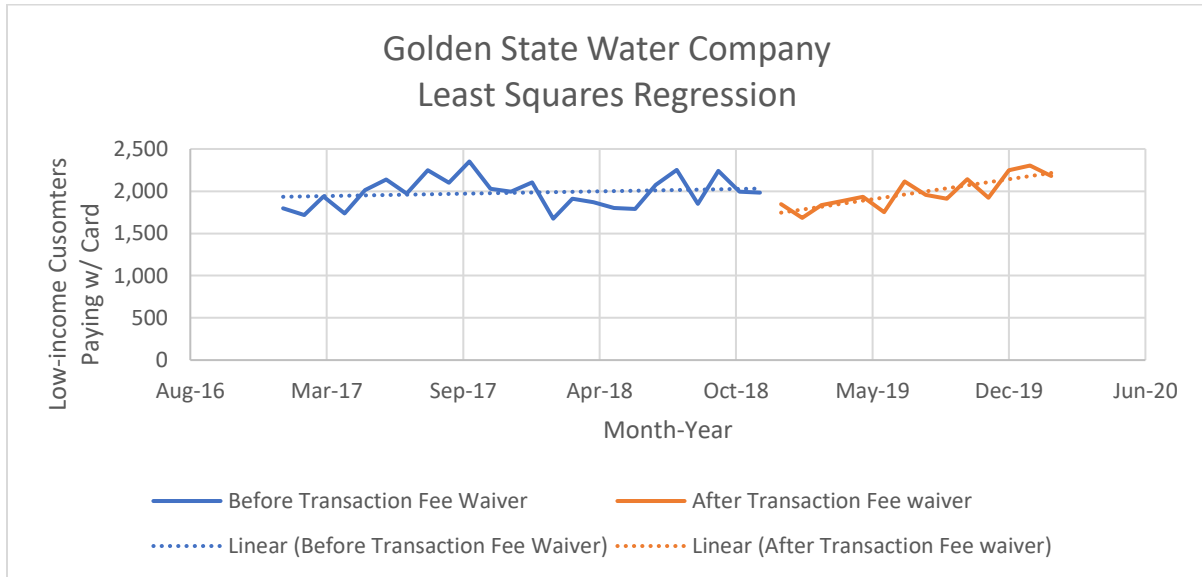
The least squares regression for the Cal Am data shows a downward trend for low-income card payments prior to waiving transaction fees. After transaction fees were waived, an upward trend can be seen for low-income customers using card payments after transaction fees were waived. The Cal Am data indicates that waiving transaction fees provided a positive response from low-income customers using credit cards for their payments.

A t-test was conducted comparing before and after the transaction fees were waived. The results show that there is a statistically significant difference between the two trend lines meaning that low-income customers were more likely to use card payments after the transaction fees were waived.



**Figure 5 Golden State Low-Income Credit Card Users**

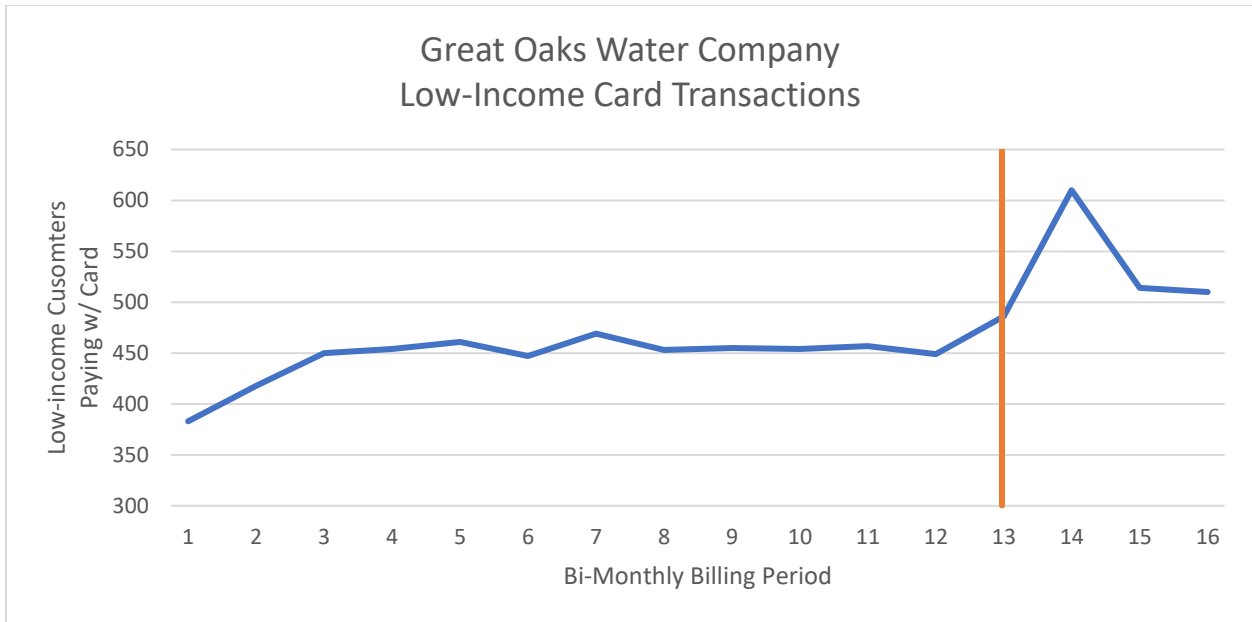
The data for Golden State, in Figure 5 shows that prior to COVID-19, the number of low-income customers paying by card did not significantly increase after transaction fees were removed. The office closures, after March 2020, caused all customers to pay their utility bills using electronic methods. Figure 5 represents the data prior to March 2020 and shows that the removal of transaction fees did not affect whether low-income customers chose card payments for their utility bills. The data indicates no significant increase in credit card usage after transaction fees were waived, as compared to the two years of data prior to when transaction fees were removed.



**Figure 6 Golden State Least Squares Regression**

Figure 6 above, shows the least square regression for Golden State shows an increasing trend in low-income customer card usage after the transaction fee was waived. The data before the transaction fees were waived show a slight upward trend in credit card use, but an even greater upward trend is shown after transaction fees were waived for low-income customers.

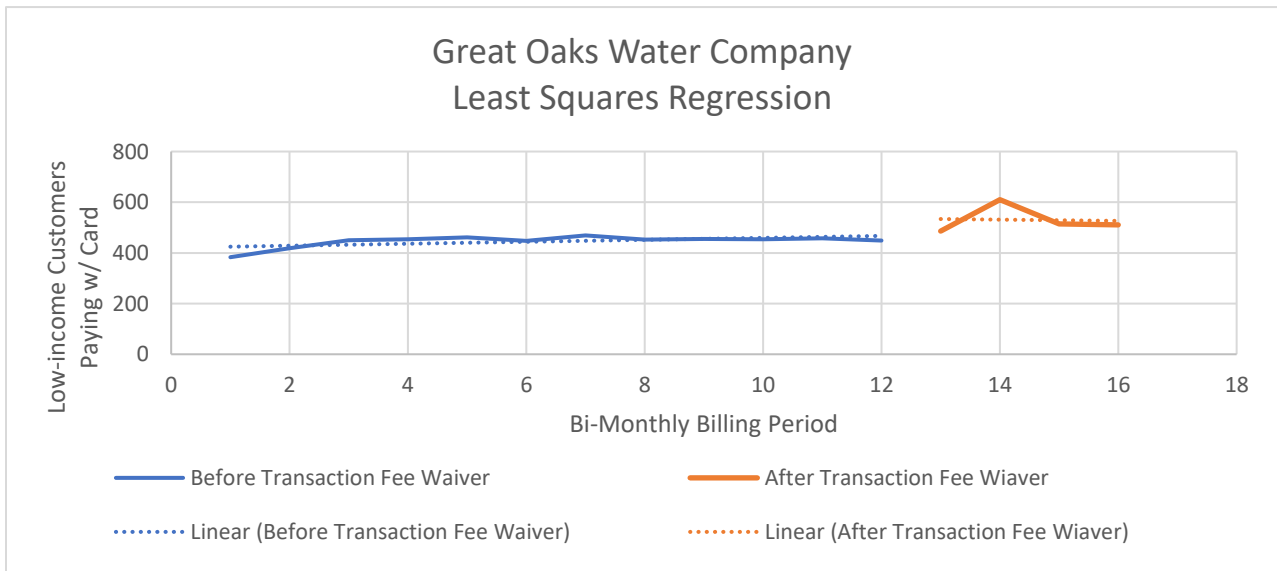
A t-test was performed on the two trends for Golden State, and the results indicate that low-income customer trends in credit card use is not statistically different before and after the transaction fees were waived.



**Figure 7 Great Oaks Low-Income Credit Card Users**

Great Oaks bills their customers on a bi-monthly basis; therefore, the data separated even and odd month credit card transactions for low-income customers. The data was normalized to provide meaningful results by summing the first month for even and odd months to create one value for the first month of each billing method. This was done for all subsequent months and the results can be found in Figure 7 above.

The data shows an increase in customer utilization when paying by credit card immediately after the transaction fees were waived, but declines two months afterward. The overall increase of credit card usage by low-income customers increases after transaction fees waivers by nearly 5%.



**Figure 8 Great Oaks Water Company Least Squares Regression**

The least square regression for Great Oaks in Figure 8, shows a slight upward trend prior to transaction fee waiver, and a slight downward trend post transaction fee waiver. The t-test between the two trends

indicate that low-income credit card use prior and post transaction fee waiver was not statistically significant.

In summary, the t-test results for Cal Am show a significant difference before and after transaction fees were waived, while the results for Golden State and Great Oaks did not.

## 2. Customers Using Credit Card Saw an Increase in Household Debt Burden

California has the tenth-highest median household income in the United States, which is \$71,564, while it also has the highest cost of living in the country.<sup>5</sup> Recent studies also indicate that California has the highest supplemental poverty rate of any state. The supplemental poverty rate incorporates a wider array of income measures than the official poverty rate, and then adjusts for the costs of living.<sup>6</sup> As a result of the high costs of living, households often face difficult trade-offs, such as choosing how and when to pay for housing, food, utility bills, or other expenses.

This section of the report assesses the financial impact of credit card debt on low-income households that decide to pay their water utility bills by credit card. There are many variables that contribute to the household debt burden and not all of them can be accounted for in this analysis. For example, there are many different types of credit cards available, and choosing a single credit card does not represent the entire population. Interest for each credit card is tied to a person's credit score and the age of a credit card. If an individual applying for a new credit card has excellent credit, they may receive a purchase Annual Percentage Rate (APR) interest rate of 13%, while an individual with fair credit will receive a purchase APR of 23%. The average purchase APR is 17% for new offers.

Another factor that varies between credit card companies is the minimum payment required on the monthly credit card bill. Credit card companies typically have a minimum payment that a customer needs to pay to avoid late fees if the customer does not want to, or cannot, pay their bill in full. Credit card companies determine the minimum monthly payment by using the greater value of the following methods: 1) a set amount minimum monthly amount such as \$25 or 2) using a percentage of the new balance on the credit card bill. In addition, water use amongst households fluctuates due to geographic variability and determining a single value for water usage for three utility water systems is a challenge.

For the analysis of household debt burden, a hypothetical scenario was created in which a low-income customer pays their water bill using a credit card and pays the minimum amount on the credit card bill, which accrues interest the following months. Assumptions were made that a low-income customer starts with no balance on the credit card and this is the first bill they received from the utility. The credit card has a 17% daily purchase APR, with the minimum balance being \$35 or 2% of the total bill, whichever is greater. The transition between a flat \$35 and 2% of the bill is \$1,750. Instead of calculating specific months, 30.4 days was used as an average number of days for each month. This was calculated by dividing 365, the number of days in a year, by twelve, the number of months in a year, to obtain the number of days per month. The last assumption made is that the bills are the same each month.

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<sup>5</sup> 2020 Median Household Income by State; <https://worldpopulationreview.com/state-rankings/median-household-income-by-state>

<sup>6</sup>Lina Fox, *The Supplement Poverty Measure: 2018*, October 2019, <https://www.census.gov/content/dam/Census/library/publications/2019/demo/p60-268.pdf>

Golden State was chosen as the example utility to represent California and data requests were made to receive a typical bill for each ratemaking area. A three-person households earning \$43,440 or less for the year qualify for Golden State’s low-income program. Table 3 below indicates the cumulative debt and interest a customer would accrue for each ratemaking area within Golden State’s jurisdiction after twelve months:

**Table 3: Golden State Low-Income Household Cumulative Debt Burden Analysis (No Transaction Fee)**

Ratemaking Area	Bill		Household Debt Burden												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Year 5	Year 10
Arden Cordova	\$59.47	\$24.47	\$49.29	\$74.45	\$99.98	\$125.87	\$152.12	\$178.74	\$205.75	\$233.13	\$260.90	\$289.07	\$317.64	\$2,195	\$4,596
	Cumulative Interest		\$0.35	\$0.70	\$1.05	\$1.42	\$1.78	\$2.16	\$2.53	\$2.91	\$3.30	\$3.70	\$4.10	\$30.43	\$64.65
Bay Point	\$73.44	\$38.44	\$77.42	\$116.96	\$157.06	\$197.72	\$238.96	\$280.79	\$323.21	\$366.23	\$409.85	\$454.10	\$498.97	\$3,149	\$5,982
	Cumulative Interest		\$0.54	\$1.10	\$1.66	\$2.22	\$2.80	\$3.39	\$3.98	\$4.58	\$5.19	\$5.81	\$6.43	\$43.82	\$84.20
Clearlake	\$91.26	\$56.26	\$113.31	\$171.18	\$229.86	\$289.38	\$349.74	\$410.95	\$473.03	\$535.99	\$599.84	\$664.60	\$730.27	\$4,192	\$7,630
	Cumulative Interest		\$0.80	\$1.61	\$2.43	\$3.26	\$4.10	\$4.95	\$5.82	\$6.70	\$7.59	\$8.50	\$9.42	\$58.44	\$107.42
Los Osos	\$115.00	\$80.00	\$161.12	\$243.40	\$326.85	\$411.47	\$497.30	\$584.34	\$672.61	\$762.13	\$852.92	\$945.00	\$1,038	\$5,482	\$9,754
	Cumulative Interest		\$1.13	\$2.28	\$3.45	\$4.63	\$5.83	\$7.05	\$8.28	\$9.53	\$10.80	\$12.08	\$13.39	\$76.48	\$137.35
Santa Maria	\$66.53	\$31.53	\$63.50	\$95.93	\$128.82	\$162.17	\$196.00	\$230.30	\$265.09	\$300.38	\$336.16	\$372.45	\$409.25	\$2,703	\$5,314.5
	Cumulative Interest		\$0.45	\$0.90	\$1.36	\$1.82	\$2.30	\$2.78	\$3.26	\$3.76	\$4.26	\$4.76	\$5.28	\$37.56	\$74.78
Simi Valley	\$79.06	\$44.06	\$88.75	\$134.08	\$180.04	\$226.65	\$273.93	\$321.88	\$370.50	\$419.81	\$469.83	\$520.55	\$571.99	\$3,491	\$6,511
	Cumulative Interest		\$0.62	\$1.26	\$1.90	\$2.55	\$3.21	\$3.88	\$4.56	\$5.25	\$5.95	\$6.66	\$7.37	\$48.61	\$91.65
Region 2	\$86.23	\$51.23	\$103.19	\$155.88	\$209.32	\$263.51	\$318.47	\$374.22	\$430.75	\$488.08	\$546.22	\$605.19	\$665.00	\$3,908	\$7,172
	Cumulative Interest		\$0.73	\$1.46	\$2.21	\$2.97	\$3.73	\$4.51	\$5.30	\$6.10	\$6.91	\$7.74	\$8.57	\$54.46	\$100.97
Region 3	\$54.05	\$19.05	\$38.36	\$57.95	\$77.82	\$97.97	\$118.40	\$139.12	\$160.14	\$181.46	\$203.07	\$224.99	\$247.23	\$1,748	\$4,004
	Cumulative Interest		\$0.27	\$0.54	\$0.82	\$1.10	\$1.39	\$1.68	\$1.97	\$2.27	\$2.57	\$2.88	\$3.19	\$24.14	\$56.29

**Table 4: Golden State Low-Income Household Cumulative Debt Burden Analysis (Including Transaction Fee)**

Ratemaking Area	Bill		Household Debt Burden												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Year 5	Year 10
Arden Cordova	\$60.92	\$25.92	\$52.21	\$78.87	\$105.90	\$133.32	\$161.13	\$189.34	\$217.94	\$246.95	\$276.36	\$306.20	\$336.46	\$2,353	\$4,748
	<i>Cumulative Interest</i>		\$0.37	\$0.74	\$1.12	\$1.50	\$1.89	\$2.28	\$2.68	\$3.09	\$3.50	\$3.92	\$4.34	\$32.66	\$66.79
Bay Point	\$74.89	\$39.89	\$80.35	\$121.37	\$162.98	\$205.18	\$247.98	\$291.38	\$335.40	\$380.04	\$425.31	\$471.23	\$517.80	\$3,294	\$6,120
	<i>Cumulative Interest</i>		\$0.57	\$1.14	\$1.72	\$2.31	\$2.91	\$3.51	\$4.13	\$4.75	\$5.38	\$6.03	\$6.68	\$45.88	\$86.14
Clearlake	\$92.71	\$57.71	\$116.24	\$175.59	\$235.79	\$296.84	\$358.75	\$421.54	\$485.22	\$549.80	\$615.30	\$681.73	\$749.10	\$4,341	\$7,761
	<i>Cumulative Interest</i>		\$0.82	\$1.65	\$2.49	\$3.34	\$4.21	\$5.08	\$5.97	\$6.87	\$7.79	\$8.72	\$9.66	\$60.54	\$109.27
Los Osos	\$116.45	\$81.45	\$164.04	\$247.81	\$332.77	\$418.93	\$506.31	\$594.93	\$684.80	\$775.95	\$868.38	\$962.13	\$1,057	\$5,643	\$9,882
	<i>Cumulative Interest</i>		\$1.15	\$2.32	\$3.51	\$4.71	\$5.93	\$7.17	\$8.43	\$9.70	\$10.99	\$12.30	\$13.63	\$78.75	\$139.16
Santa Maria	\$67.98	\$32.98	\$66.42	\$100.34	\$134.74	\$169.63	\$205.01	\$240.89	\$277.28	\$314.19	\$351.62	\$389.58	\$428.08	\$2,851	\$5,457
	<i>Cumulative Interest</i>		\$0.47	\$0.94	\$1.42	\$1.91	\$2.40	\$2.90	\$3.41	\$3.93	\$4.45	\$4.98	\$5.52	\$39.66	\$76.79
Simi Valley	\$80.51	\$45.51	\$91.67	\$138.49	\$185.96	\$234.11	\$282.94	\$332.47	\$382.69	\$433.63	\$485.29	\$537.68	\$590.81	\$3,636	\$6,646
	<i>Cumulative Interest</i>		\$0.64	\$1.30	\$1.96	\$2.63	\$3.32	\$4.01	\$4.71	\$5.42	\$6.14	\$6.87	\$7.62	\$50.67	\$93.55
Region 2	\$87.68	\$52.68	\$106.11	\$160.29	\$215.24	\$270.97	\$327.49	\$384.81	\$442.94	\$501.89	\$561.68	\$622.32	\$683.82	\$4,055	\$7,304
	<i>Cumulative Interest</i>		\$0.75	\$1.50	\$2.27	\$3.05	\$3.84	\$4.64	\$5.45	\$6.27	\$7.11	\$7.96	\$8.82	\$56.53	\$102.83
Region 3	\$55.50	\$20.50	\$41.28	\$62.36	\$83.74	\$105.43	\$127.41	\$149.72	\$172.33	\$195.27	\$218.53	\$242.12	\$266.05	\$1,924	\$4,170
	<i>Cumulative Interest</i>		\$0.29	\$0.58	\$0.88	\$1.19	\$1.49	\$1.81	\$2.12	\$2.44	\$2.77	\$3.10	\$3.43	\$26.62	\$58.64



The data in Tables 3 and 4 show an exponential increase in household debt when customers pay their utility bill using credit card payments and choose to pay the minimum amount. The reason for the significant increase is that the residual balance accrues interest, and the new monthly bill is added onto the residual balance. Paying the minimum amount is beneficial in avoiding late fees, however, the added interest and compounded bills will cause the household debt burden to increase significantly over time.

The transaction fees increase the utility bill approximately nineteen dollars over a 12-month period if customers chose to pay their utility bill using the minimum payment.

While this analysis focuses on water bills, it should be noted that adding other expenses (clothes, food, housing, other utilities, etc.) will exponentially increase the month-to-month bills if households choose to pay the minimum amount on their credit cards. In addition, utilities have the right to shut off service to a household that is negligent in payment, and a cost is associated with reconnecting the house to the water utility. The reconnection costs can add to the household debt burden where the household will need to pay for an additional fee if they did not pay their utility bill in a timely manner. Table 5 lists the reconnection fees associated with each utility.

**Table 5 Reconnection Fee**

Utility	Reconnection (Normal Hours)	Reconnection (Off-Hours)
Cal Am	\$10	\$150
Golden State	\$40	\$120
Great Oaks	\$25	\$40

In summary, households that use credit cards to pay their utility bill increases the household debt burden if that household chooses to pay the minimum amount of their credit card bill. With interest, and the addition of a new utility bill the following month, a household’s bill will continue to grow exponentially, thereby increasing the household debt burden and increasing the cost of water service through increasing interest charges.

### 3. Mixed Results for Customer Utilization and Costs Associated with Payments

The final evaluation in this report is an assessment on customer utilization and the cost-effectiveness of the bill payment options on an aggregated basis. This compares the number of customers that use different payment methods against the costs associated with each method. Table 6, 7, 8, and 9 below, provide information of the historical customer utilization of different payment options beginning two years prior to the transaction fee waiver. Cal Am began waiving transaction fees beginning in May 2019 and the annual analysis period begins in May and ends in April. For Golden State, the annual analysis begins in January and ends in December due to the transaction fee waiver beginning in January 2019. Great Oaks did not provide data for both customer utilization and cost-effectiveness of the bill payment options. As a result, Great Oaks was unable to be analyzed for customer utilization and costs associated with payments. Data for customer utilization and costs associated with different bill payment options were removed after March 2020 due to COVID-19, which was not representative of normal credit card use for bill payments.

**Table 6 California American Water Customer Utilization**

Month/Year	Card	Mail	In-Person	ACH	Electronic Check
May-17 to April-18	139,388	634,913	75,645	931,642	135,580
May-18 to April-19	142,362	589,709	69,257	967,616	157,719
May-19 to Feb-20	163,430	445,967	50,222	802,580	117,611
Cost per Transaction	\$1.50	\$0.17	\$5.17	\$0.04	\$0.46

**Table 7 California American Water Customer Utilization (Percentage)<sup>7</sup>**

Month/Year	Card	Mail	In-Person	ACH	Electronic Check
May-17 to April-18	7%	33%	4%	49%	7%
May-18 to April-19	7%	31%	4%	50%	8%
May-19 to Feb-20	10%	28%	3%	51%	7%

Tables 6 and 7, show that more customers are moving away from mail and in-person transactions and switching to card payment or ACH transactions. ACH allows customers to pay their bills by money directly from the customer's bank accounts to the utility. There was a 5-percentage point decrease in mail payments and 1-percentage point decrease for in-person payments. Conversely, there was a 3-percentage point increase in card payments and a 2-percentage point increase in ACH transactions. Electronic check payments stayed relatively constant.

**Table 8 Golden State Customer Utilization**

Month/Year	Card	Mail	In-Person	ACH	Electronic Check	Other Online Payment
Jan-17 to Dec 17	268,948	806,371	318,155	284,309	28,845	831,218
Jan-18 to Dec-18	278,642	807,952	290,231	292,993	157,021	714,655
Jan-19 to Dec-19	294,570	705,254	258,317	247,737	290,469	614,279
Cost per Transaction	\$1.45	\$0.29	\$5.26	\$0.15	\$0.15	\$0.025

**Table 9 Golden State Customer Utilization (Percentage)<sup>8</sup>**

Month/Year	Card	Mail	In-Person	ACH	Electronic Check	Other Online Payment
Jan-17 to Dec 17	11%	32%	13%	11%	1%	33%
Jan-18 to Dec-18	11%	32%	11%	12%	6%	28%
Jan-19 to Dec-19	12%	29%	11%	10%	12%	25%

<sup>7</sup> Percentages calculated on a per year basis by dividing the customer utilization by the total customers for that year. This provides a yearly comparison based on the total customers.

<sup>8</sup> See note 7

Tables 8 and 9, show a 1-percentage point increase in card users from 2017 to 2019 and 2-percentage point decrease for in-person transactions. Mail-in transactions decreased by 3-percentage points in 2019. ACH transactions increased by 1-percentage point in 2018 and decreased by 2-percentage points in 2019. Other online payments decreased by 8-percentage points in 2019. Golden State began the electronic check program in May 2017 and explains the low customer utilization in the first year.

Tables 6 and 8, show that year-over-year, customers are switching from mail or in-person payments to digital payments such as ACH and electronic checks or card transactions. However, the costs per transaction for card payments is much greater than the other forms of payment except for in-person transactions. Customers that transition from in-person payments to card payments is a cost-effective transition because the bill payment costs are reduced. When customers transition from other cheaper payment options to higher card payments, this transition is cost-ineffective and causes an increase in overall costs to the utility borne by ratepayers.

While in-person utility costs per transaction are greater than other forms of payment, in-person payments remain as an option to support customers that do not interact with financial institutions and primarily pay with cash. The Commission has continued in-person payments to allow individuals to continue paying with cash instead of having these individuals rely on costly financial institutions for these transactions.

Table 10 provides a weighted average cost per transaction analysis that was conducted to compare the cost per transaction between years. The year 2020 was an outlier year due to COVID-19 and was removed from the data analysis. The weighted average cost per transaction was calculated by summing the product of the percentage of the customer utilization and the cost of that payment type. Table 11 provides the results for Cal Am and Golden State.

**Table 10 Weighted-Average Cost Per Transaction**

Company	2017	2018	2019
Cal Am	\$0.40	\$0.39	\$0.42
Golden State	\$0.93	\$0.89	\$0.87

The results from the weighted average cost per transaction vary between companies. For Cal Am, the weighted average cost per transaction decreased in 2018 and increased in 2019. For Golden State, the weighted average cost per transaction decreased in both 2018 and 2019.

In summary, over the period 2017-2019, Golden State’s weighted average cost per transaction has been decreasing, while Cal Am’s has been increasing as more customers transition to using credit-card payments from other lower-cost payment methods to pay for water bills. However, the costs associated with customers transitioning from one form of payment to another varies. While the overall cost each year decreased, the primary reason for this cost decrease of the transition is the switch from in-person payment methods to other forms of payment. Customers that transition from in-person payments to card payments is a cost-effective method and reduces the overall utility cost for customers. Customers who transition from other forms of payment to card payments results in cost-ineffective payment choices and increases the overall cost per transaction as indicated by the Cal Am results in Table 10.

## V. EVALUATION OF SEPARATE TRANSACTION FEES AND RECOMMENDATION

The assessments required by PU Code Section 915 do not provide a definitive evaluation of the benefits of waiving transaction fees on individuals paying water bills with credit cards. There is not a definitive and statistically significant difference in credit card payment trends across the three participating utility companies before and after transaction fees were waived. Cal Am's results show that there is a statistically significant increase in low-income customers that chose to pay with credit cards after transaction fees were waived. Golden State's and Great Oaks' results show no statistically significant increase in low-income customers paying with a credit card after transaction fees were waived.

Further, the analysis in Section IV.2 above, shows that paying with a credit card increases both the household's debt burden if the credit card bills are not paid in full each month and the cost of water service as interest charges are applied on unpaid balances from credit card companies.

Finally, Section IV.3 above, indicates that customers who transition from a high-cost in-person payment option to a credit card payment is cost-effective at lowering the weighted-average utility cost per transaction. However, the transition from other bill payment options (Mail, ACH, Electronic Check, or Other Online Payments) to credit cards is cost ineffective and increases the weighted average utility cost per transaction for the general body of ratepayers, which would increase rates charged for water service.

### ***Recommendation***

The CPUC recommends that if the Legislature determines to mandate a permanent waiver of transaction fees for individuals paying by credit card, it should limit the waiver to all low-income customers, which will provide additional rate relief. On the other hand, a broad waiver on transaction fees for all individuals paying by credit card is both cost ineffective and regressive in its impact on customer rates.