



500 South 4th Avenue Brighton, CO 80601

April 29, 2015

Rebecca Mitchell
Section Chief, Water Supply Planning
Colorado Water Conservation Board
Department of Natural Resources
1580 Logan Street, Suite 600
Denver, Colorado 80203

RE: Colorado Water Conservation Board Water Efficiency Grants
City of Brighton WaterSmart Project 75% Completion Update

Dear Ms. Mitchell,

Please find herein, the City of Brighton's 75% project report prepared in accordance with the Water Conservation Planning Grant requirements. The report provides information on the steps completed thus far, those issues encountered and discussion on moving forward with completion of the plan.

Program Overview and Project Steps Completed:

The Colorado Water Conservation Board approved funds on March 5, 2014 for the City of Brighton ("City") to implement a water conservation education and outreach intended to facilitate communication with residents regarding their water use, improve the City's understanding of water use by their residential customers, and reduce annual water demand.

Since the program launch in summer 2014, the City of Brighton has worked with WaterSmart Software ("WaterSmart") to implement a program. On behalf of the City, WaterSmart randomly selected approximately 4,000 single family residential accounts for enrollment in the year-long pilot project designed to spur conservation among enrolled homes and provide the data necessary for clear results and data monitoring. Enrolled accounts, the "experimental group", are sent six Home Water Reports, bi-monthly, over the course of 12 months. These accounts also have access to a web-based customer portal that presents customer-specific

water use data and comparisons, and customized water-saving recommendations. A control group was also selected, so that WaterSmart could accurately measure the impact of the program by comparing results of the enrolled “experimental group” with the control group, which did not receive any communications.

Home Water Reports help residents understand their water use by providing it in gallons per day and by providing comparative water-use data of similar households in Brighton. The Reports also provide targeted recommendations on how to reduce water use by making behavioral and fixture changes. Table 1 below shows the number of Home Water Reports sent to customers thus far. The exact number of Home Water Reports sent may not total the 4,000 accounts due to missed, suspect, or bad meter reads or account closures.

Table 1: Home Water Reports Sent

Mailing Month	Email	Paper	Total Reports Sent
March 2015	474	3,164	3,638
December 2014	447	2,932	3,379
October 2014	490	3,287	3,777
August 2014	482	3,380	3,862

Water Savings

The WaterSmart program has produced a savings rate of about 2% through the mid-February meter reading.¹

Figure 1: Savings Rate Over Time

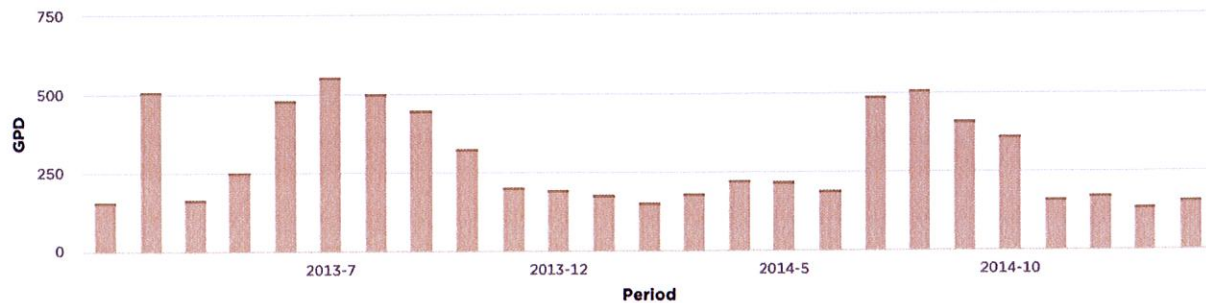


This savings rate line with WaterSmart’s expectation given the length of the program and the seasonality of water savings. Over 55% of the water consumed by residential accounts in

¹ The Program Impact on Water Consumption (Treatment Effect), from Aug 2014 to Feb 2015, is calculated using a randomized control group and a fixed effects (FE) regression model. The results are significant at the $p = 0.172$ level. The FE regression model controls for time period (month/year) and household account. The model also includes a set of indicator variables for each post period month which are used to determine the monthly savings. The savings in AF is calculated by applying the treatment effect to all Home Water Report recipients.

Brighton is used during the summer months (July, August, September and October), so savings will typically be higher during those months and lower during non-irrigation months. Figure 2 shows the high seasonality in water use by tracking average gallons per day (GPD) per single family residential account over the course of the past two years. Average gallons per day range from lows in winter months of 133 gallons per day (January 2015) to highs of 506 gallons per day (August 2014).

Figure 2: Average GPD Over Past Two Years








Utility Dashboard Data

WaterSmart's Utility Dashboard provides Brighton's utility staff with analytics and insight into water use among their customers, as well as updates on program statistics. A few examples follow.

Leak Report

WaterSmart's Utility Dashboard provides Brighton with a list of potential leaks. This list contains all non-AMI leaks detected in a particular billing period. A reading must be abnormally high, compared to historical usage for the account, to qualify as a leak. It also must be at least 1,500 GPD, and must exceed the second highest reading in the last two years by either 1,500 GPD or 200%. It's not unusual for zero leaks to be detected in a period. Accounts must have at least two years of usage history in order for leaks to be detected. A report showing actual leaks are provided below. Account information is taken out to ensure anonymity of accounts.








Figure 3: Leak Report from Utility Dashboard

<div> <div>READING PERIOD</div> <div>2014-10</div> <div>GO</div> </div>				
ACCOUNT	CONSUMPTION (GALLONS) ▼	PERCENT OF PAST HIGH	GPD ABOVE PAST HIGH	READ DATE
	9,110,070	54,781%	259,808	Oct 9, 2014
	1,114,360	1,741%	28,074	Oct 16, 2014
	977,200	2,172%	25,420	Oct 16, 2014
	410,850	2,024%	10,739	Oct 16, 2014
	55,950	316%	1,075	Oct 29, 2014

Participation in Rebates and Results

In addition, the Utility Dashboard shows information and results from participation in rebate and other utility conservation programs. Savings are calculated by comparing consumption over the 12 months before program completion to consumption over the 12 months after completion. If there is less than 12 months of consumption data, an average over the time periods available is used. An additional savings calculation, Median-Adjusted Savings, which adjusts for fluctuations in seasonal use and other factors that are independent of program participation. A report showing actual participation and savings results estimates is shown below. Account information is taken out to ensure anonymity of account owners.

Figure 4: Rebate Participation

ACCOUNT	PROGRAM NAME	COMPLETION DATE ▼	SAVINGS (GPD)	SAVINGS (%)	MEDIAN-ADJUSTED SAVINGS (GPD)	MEDIAN-ADJUSTED SAVINGS (%)	HOME WATER REPORT RECIPIENT
	Toilet Retrofit 1	Sep 5, 2014	55	35%	45	29%	Y
	Toilet Retrofit 1	Sep 5, 2014	67	29%	31	14%	N
	Toilet Retrofit 1	Sep 5, 2014	48	36%	42	32%	N
	High Efficiency Washer ...	Jul 8, 2014	-17	-11%	0	0%	Y
	High Efficiency Washer ...	Jul 8, 2014	-35	-10%	-34	-10%	Y
	Toilet Retrofit 1	Jul 8, 2014	-53	-28%	-52	-27%	Y
	High Efficiency Washer ...	Jul 8, 2014	-48	-11%	-37	-10%	N

Next Steps

The City of Brighton will work with WaterSmart to mail an additional two Home Water Reports, as shown in the updated program schedule in Table 4. In addition, enough data will be available for WaterSmart to begin to assess the program impact in terms of water conserved by the experimental group compared to the control group in July 2015. WaterSmart will communicate these results, as well as details about the measurement and verification process. The City of Brighton will communicate program results in the 100% completion report to be submitted in July/August 2015.

Table 2: Updated Program Schedule

Project Launch June 2014	WaterSmart sends Welcome Letter and Water Insight Survey to ~4,000 enrolled residential accounts. Utility Dashboard and Customer Portals are customized for the City of Brighton and are live.
August 2014	WaterSmart sends initial Home Water Reports to enrolled residential accounts.
October 2014	WaterSmart sends the second Home Water Reports to enrolled residential accounts.
December 2014	WaterSmart sends the third Home Water Reports to enrolled residential accounts. In conjunction with the City, WaterSmart prepares a progress report for submission to CWCB, which includes key insight from survey responses, program participation data, and conservation gains. (SUBMITTED December 16, 2014)
March 2015	WaterSmart sends the fourth Home Water Reports to enrolled residential accounts.
April 2015	In conjunction with the City, WaterSmart prepares a progress report for submission to CWCB, which includes program participation data, conservation

	gains, and other relevant metrics and statistics. (SUBMIT April 30, 2015)
May 2015	WaterSmart sends the fifth Home Water Reports to enrolled residential accounts.
June 2015	WaterSmart sends the final Home Water Reports to enrolled residential accounts.
July 2015	In conjunction with the City, WaterSmart prepares a final report for submission to CWCB, which includes program outcomes, conservation savings, participation by residents, post-survey results, etc. (SUBMIT July 31, 2015)

Thank you for all your support and guidance with our Water Conservation Plan Grant. If you have any questions, please contact me.

Sincerely,



Dawn M. Hessheimer
Water Resources Specialist

Cc: Ben Wade, Colorado Water Conservation Board
Curtis Bauers, Director of Utilities, City of Brighton
Dominique Gomez, WaterSmart Software, Inc.