

Project Status Report: CEEEn-2018CPST-004
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Project Title: Spanish Fork Irrigation-Water Conservation Study

Report Date: 2/4/2019

- 1) Summary of technical/non-technical challenges encountered**
- Preliminary student t-tests showed that the difference between averages of the same months of the two years were not statistically significant. The results will be confirmed by all members of the team. If the results are correct, the issue can be mitigated by increasing the size of the data set.
 - It is not known how the control groups can be used to determine a better recommended watering schedule for citizens that will reduce peak demand.

- 2) Team approaches & resolutions to overcome challenges**
- The team collected and began organizing data for two different groups between 2017 and 2018--those who had controllers installed and those who didn't. This is similar to what the team has been doing, however, this data collection will be for a larger data set (40 vs 900).
 - Josie worked on student t-tests for all of the data collected previously. Angie and Whitney will also collect t-test results this upcoming week and compare answers to make sure all results are accurate. These values will help the team have the right method for when we have all the data ready to be tested in the larger data set.

- 3) Status of challenge resolutions & potential project impact**
- The team will collect data for 900 homes (in addition to the 40 ones we already have) and study their average GPM per hour pre- and post-Rachio to create a more accurate demand curve. With a robust demand curve, estimations like cost benefit and system peak reduction will be more accurate. Figures have been made to show have the installations of the controllers affected the variance of PI usage within the city.
 - The optimal schedule is in progress. The 2 control groups' figures and analysis will help the team see how the Rachio controllers are affecting water conservation at Spanish Fork.

- 4) Project status & summary**
- Control groups were divided into two parts, those with controllers installed during 2018 and those without in controllers in both 2017 and 2018.
 - Data is being collected for both control groups to form a robust representation of how water usage changed with the installation of the controllers.