

To: Mayor and Ames City Council

CC: Steve Schainker, City Manager
Bob Kindred, Asst. City Manager

From: Donald Kom, Director

Date: 19 February 2019

Subject: INITIAL UTILIZATION OF THE EV CHARGING STATIONS

BACKGROUND:

In 2018, the City of Ames began adding all-electric cars to its fleet of City vehicles. Presently, two Chevy Bolts are used; one by Electric Administration and the other by City Hall as a pool car. To provide the “fueling” of these cars, two electric vehicle (EV) charging stations were installed; one in the west parking lot of City Hall and one south of Bandshell Park. To support and encourage greater acceptance of EVs by the general public, each charger was equipped with two charging ports and opened to the general public for use. Discussions were also held with Main Street Ames and Iowa State about additional interest in adding EV chargers at their locations. At this time, these entities are not interested in paying for additional chargers.

Cost of each charging station broke out like this:

- Charging Station	\$5,490
- Cloud Plan	\$705/year
- 2 year extended warranty	\$1,410
- Meter pedestal	\$695
- Installation (Bandshell/City Hall)	\$5,903/\$3,372

Total project cost for both chargers: \$28,925 (includes sales tax)

An initial charging rate of \$1/hour for Ames residents and \$2/hour for all non-residents was adopted to cover the cost of the electricity and help cover the cost of the units themselves. At the time of installation, the Ames City Council asked for a report on the usage of the chargers at the end of 2018; this document serves as that report.

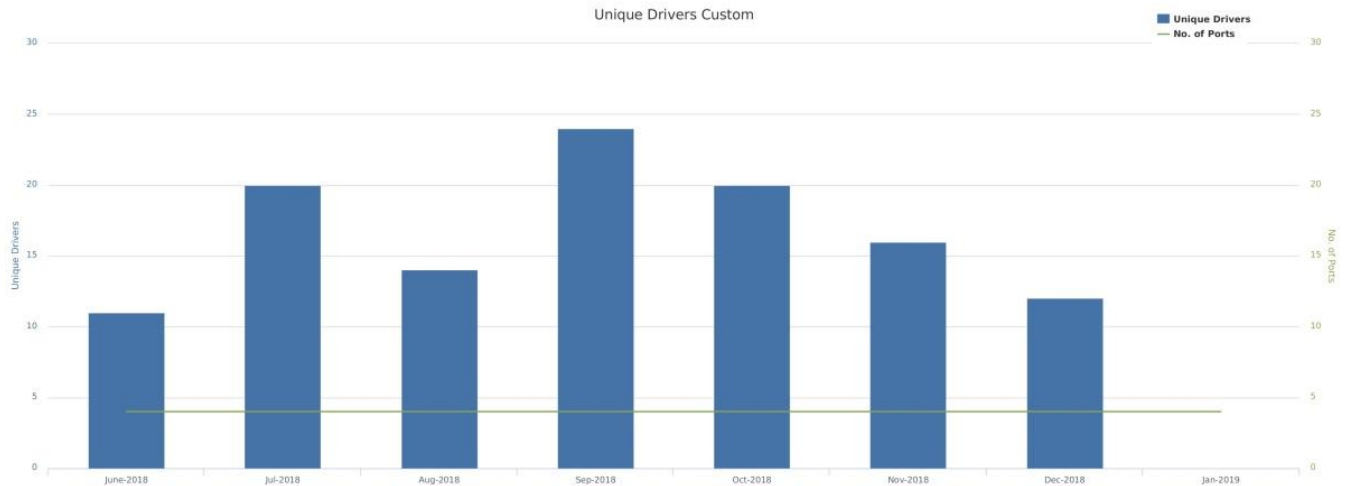
The chargers installed gather quite a variety of useful information. Information available includes the number of unique drivers who charge during a month, number of vehicles charged in a given month, kilowatt-hours provided, and revenue generated. This report will summarize the information tracked from June 2018 through December 2018.

CONNECTED DRIVERS:

These are the drivers who have utilized the charging stations at either site. They might be customers, employees or a City Fleet vehicle.

What It Means

An increase in different drivers should ideally correspond to an increase in utilization at our sites. Since charger installation, the City saw its highest number of different vehicles during the month of September, at 24, and the lowest number during its first month of operation. Following the peak, the individual driver number is dropping. This is likely due to a combination of changing weather, the rate, location, and ability to charge at home.

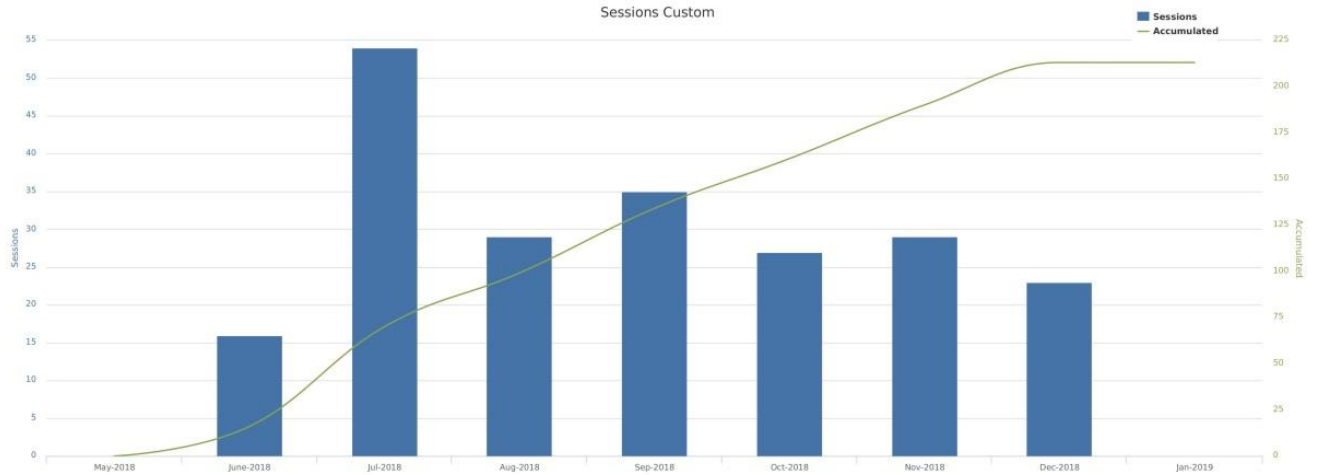


SESSIONS:

A charging session occurs when an EV plugs in and receives energy for more than two minutes. A single driver can have multiple charging sessions.

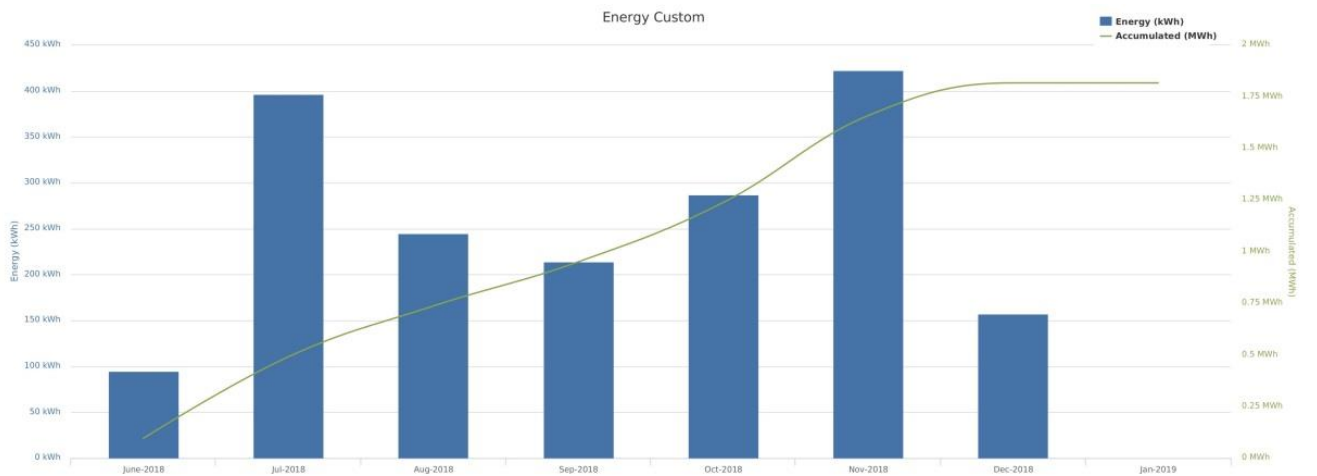
What It Means

Along with station usage, sessions are a good indicator of how frequently the City stations are being used. In the previous graph, September had the most unique EVs charged; however, there were more “plug-ins” accomplished in July with 54 charges taking place.



ENERGY:

This is the amount of energy that has been dispensed by the City’s charging stations in 2018. By looking at the revenue generated (graph later in the report) an approximation of energy provided to customers versus energy used by City vehicles can be made. Energy is measured in kilowatt hours (kWh).

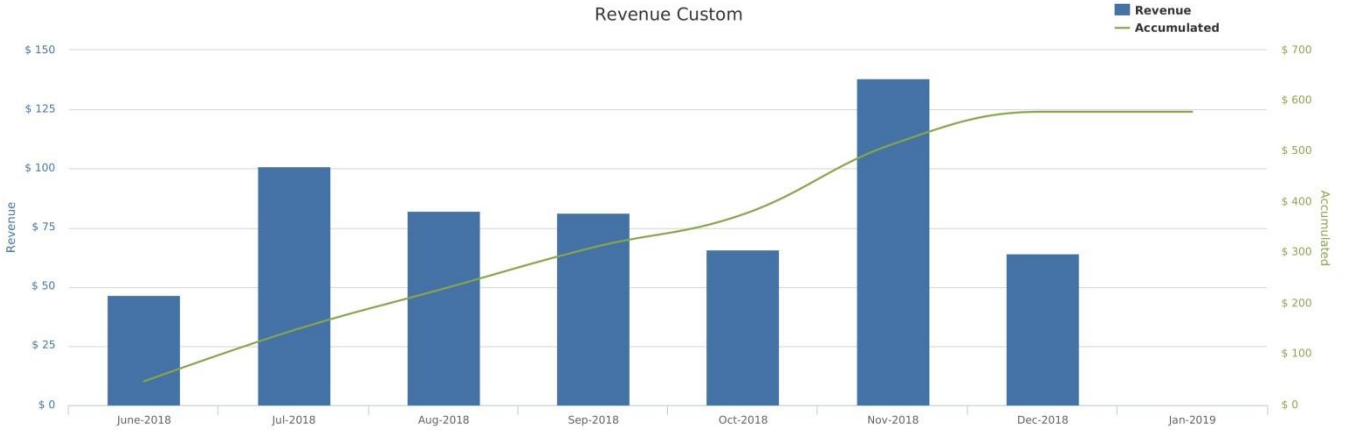


FINANCIALS:

"Revenue" is the amount the City collected for EV charging by non-city vehicles. Presently the City charges \$2/hour to non-residents and \$1/hour for residents once they enter a code.

What It Means

In the first six months of charger availability, the City has collected approximately \$600 in revenue. The cost of the electricity to supply the chargers totaled approximately \$46 with the remainder towards the cost of the infrastructure.



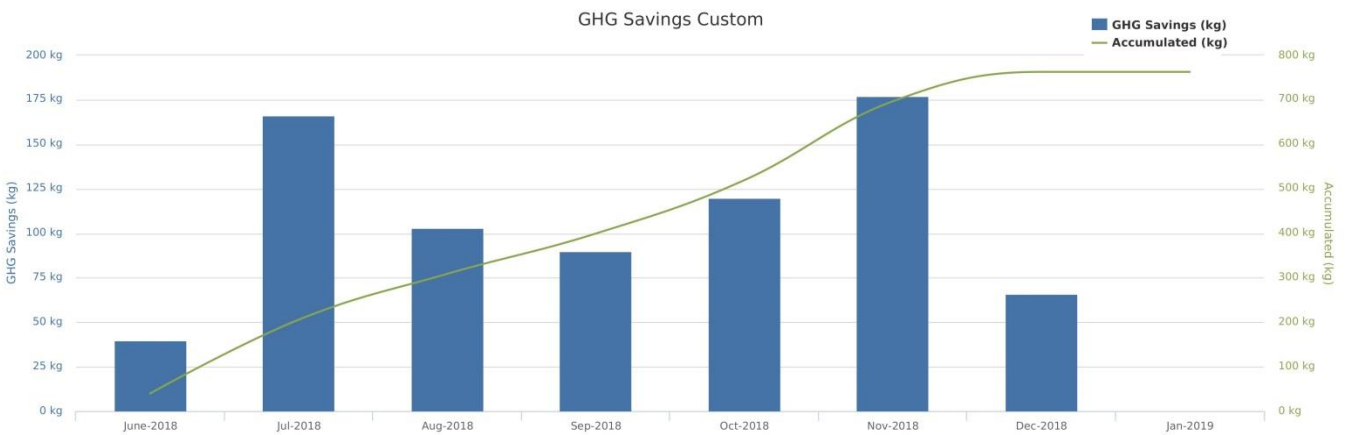
ENVIRONMENT:

Driving electric is an important way to reduce reliance on oil and fossil fuels and decrease greenhouse gas emissions.

What It Means

It is common to estimate the emissions avoided based on the energy dispensed and show tree growth equivalents from the EPA. Actual emissions avoided may be higher or lower depending on how the actual electricity is generated.

Here's how EV charging has helped:



We've avoided 763 kg greenhouse gas emissions.



That's like planting 22 trees and letting them grow for 10 years.

CUSTOMER FEEDBACK:

The system also allows for customer feedback in regards to the City's EV chargers. Below are three comments received.

Does the city of Ames value this so little that they are really charging people \$2.00 an hour for level II Charging? Ames, you're better than that! Honestly!
sdrCAR

Agree with sdrCAR! Not all chargers need to be free but Ames is charging DC fast charging prices for level 2. Won't be used much at this price point and diminishes the EV movement.
dfishbau

As stated before really Ames \$2 to charge you can do better. Only 3 places in all of Ames to charge. This charger is located downtown and would be a great way to increase traffic. I was glad to use it in a bind, but won't come back to Ames when Des Moines and Ankeny have free chargers.
evan4434

SUMMARY:

The primary purpose of the EV charging stations is to power the City's EV fleet and provide the ability for customers to charge their vehicles. In general, the chargers are seeing continued use by EV owners. Feedback received regarding the charging rate is being reviewed. Without the City's need to install charges for its own vehicle use, the capital cost for additional EV chargers will likely not be recovered fully through the sale of energy alone. However, staff believes installing additional chargers would be utilized by EV owners.