

RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES

DATE: JULY 23, 2018

ITEM NO: 4

SUBJECT: EXTENSION OF THE RESEARCH AND DEVELOPMENT PERIOD THROUGH DECEMBER 31, 2018 FOR THE ELECTRIC VEHICLE DIRECT CURRENT FAST CHARGING STATION AT CITY HALL AND AUTHORIZE AN ADDITIONAL \$10,000 OF PUBLIC BENEFITS FUNDS FOR A TOTAL OF \$35,000

ISSUE:

Authorize the extension of the research and development period through December 31, 2018 for the electric vehicle direct current fast charging station at City Hall and the use of an additional \$10,000 of Public Benefits funds for a total amount of \$35,000.

RECOMMENDATIONS:

That the Board of Public Utilities recommend that the City Council:

1. Authorize the extension of the research and development period for the electric vehicle direct current fast charging through December 31, 2018; and
2. Approve the use of an estimated additional \$10,000 of Public Benefits funds to pay for energy consumption by electric vehicle customers during the research and development period, for an estimated total amount of \$35,000.

BACKGROUND:

In 2011, in support of the City's policy to promote alternative fuel transportation, the City in coordination with Riverside Public Utilities (RPU) installed eleven electric vehicle (EV) charging stations at various public locations in the City in alignment with Seizing Our Destiny's "Becoming a Green Machine" initiative. As part of that pilot project, two Level 2 charging stations were installed at City Hall. Since that time, the need to install additional charging stations increased, and it is evident that RPU plays an important role in adopting and supporting EV charging infrastructure.

In September 2015, RPU installed one EV Direct Current (DC) Fast Charging Station on the north parking lot at City Hall, next to the existing two Level 2 chargers. The EV DC Fast Charging Station serves as a research and development pilot project to demonstrate fast charging equipment, which is capable of charging an EV battery in 20 to 30 minutes.

DC Fast Charging is a new technology with little empirical data to support rate design. On October 6, 2015, the City Council approved providing EV DC Fast Charging without charge to retail customers until December 2016 to collect customer acceptance/usage and electrical load information and pay for energy consumption with Public Benefits funds at the estimated amount of \$15,000. On December 12, 2016, the Board of Public Utilities extended the term of the research and development period through December 2017, and increased Public Benefits funding by \$10,000 to a total of \$25,000.

The data collected through the EV DC Fast Charging Station is necessary to support meaningful rate analysis for this type of service, as well as to determine the impact on the electric distribution system. The charging station is fed from a dedicated electric meter to allow for the collection of kilowatt-hour (kWh) energy consumption and kilowatt (kW) demand usage data for the station. The electric account is billed at a commercial rate and reimbursed with funds collected through the RPU Public Benefits Charge. Public Benefits funds can only be utilized for purposes set forth under the guidelines determined by the State, which include energy efficiency and conservation services and investment in technology to promote the same, research projects, and low-income customer assistance (Pub. Util. Code section 385). Expenses associated with the energy consumption and demand charges for this energy efficiency research project are allowed under the law.

The charts below summarize customer usage information collected from September 2015, through May 2018, at the EV DC Fast Charging Station at City Hall. As reflected in Chart 1, usage of the EV DC Fast Charger at City Hall continues to increase. Charts 2 through 5 include usage data collected for the same timeframe.

Chart 1: Total number of charging sessions per month – Sept. 2015 – May 2018

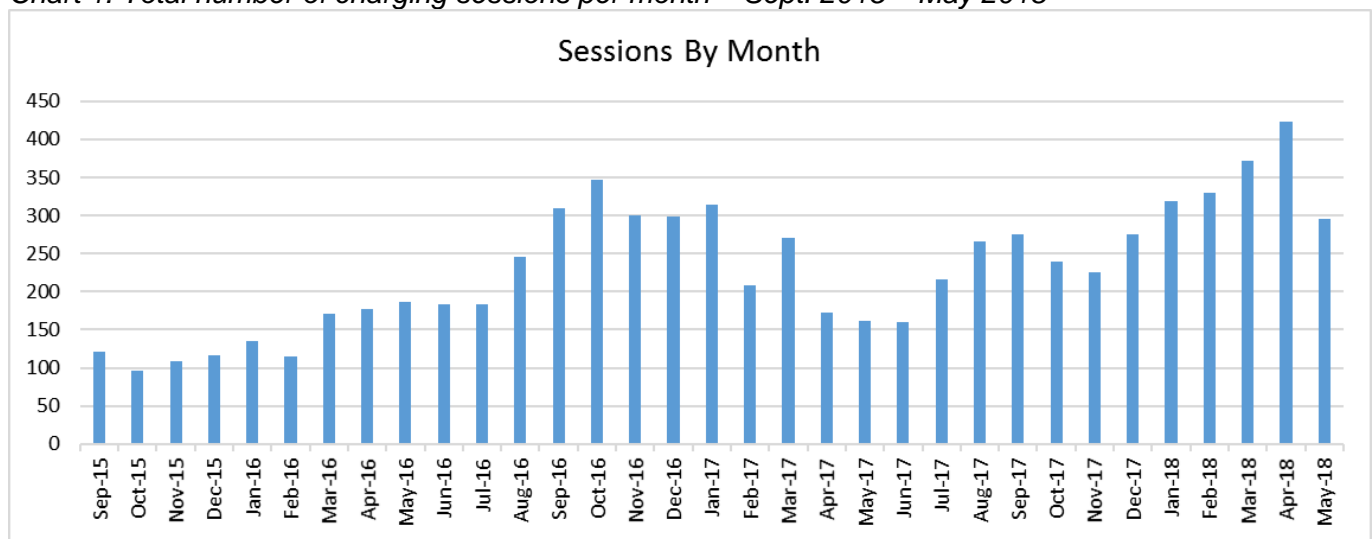


Chart 2: Total number of charging sessions by day of the week – Jan. 2016 – May 2018

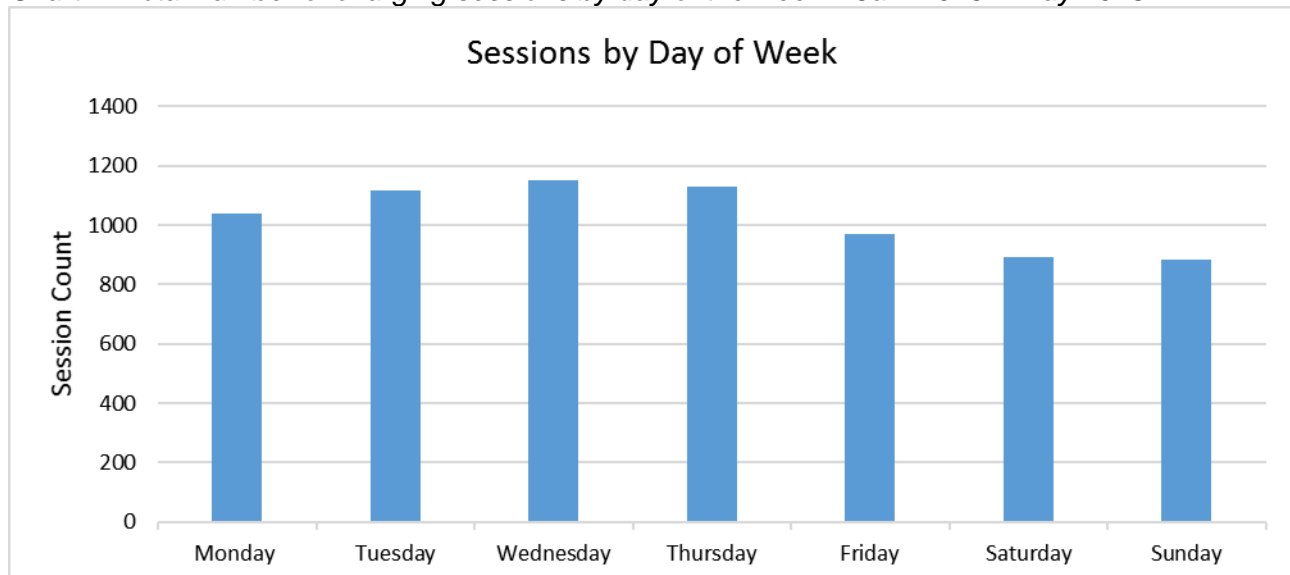


Chart 3: Duration of charge in minutes for all charging sessions – Jan. 2016 – May 2018

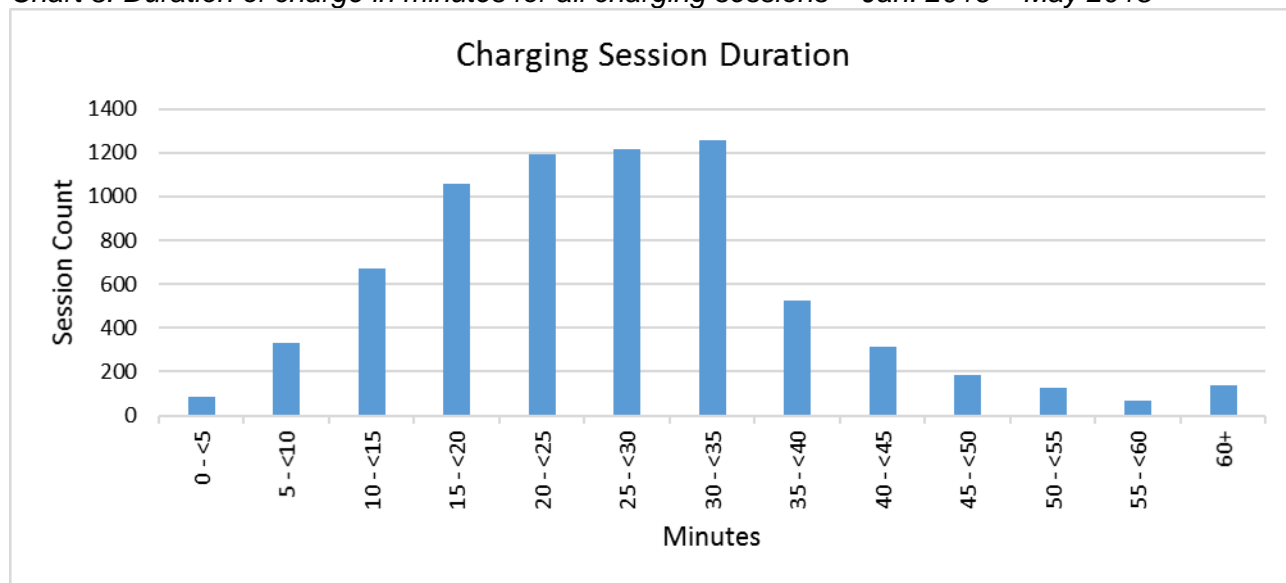


Chart 4: Average energy usage (kWh) for all charging sessions- Jan. 2016 – May 2018

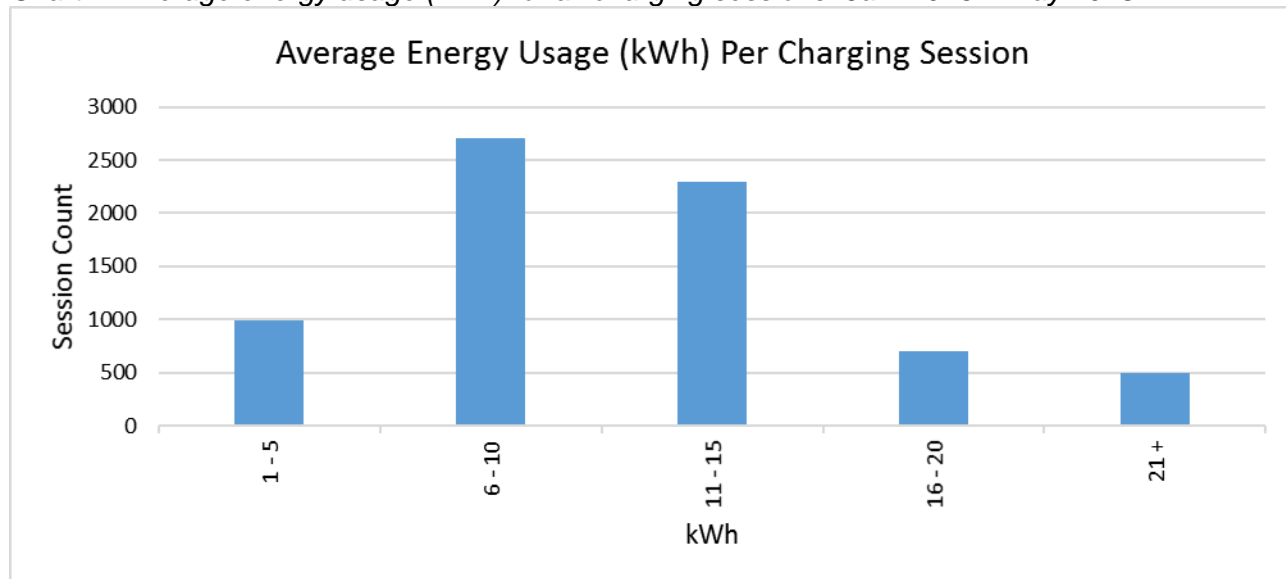
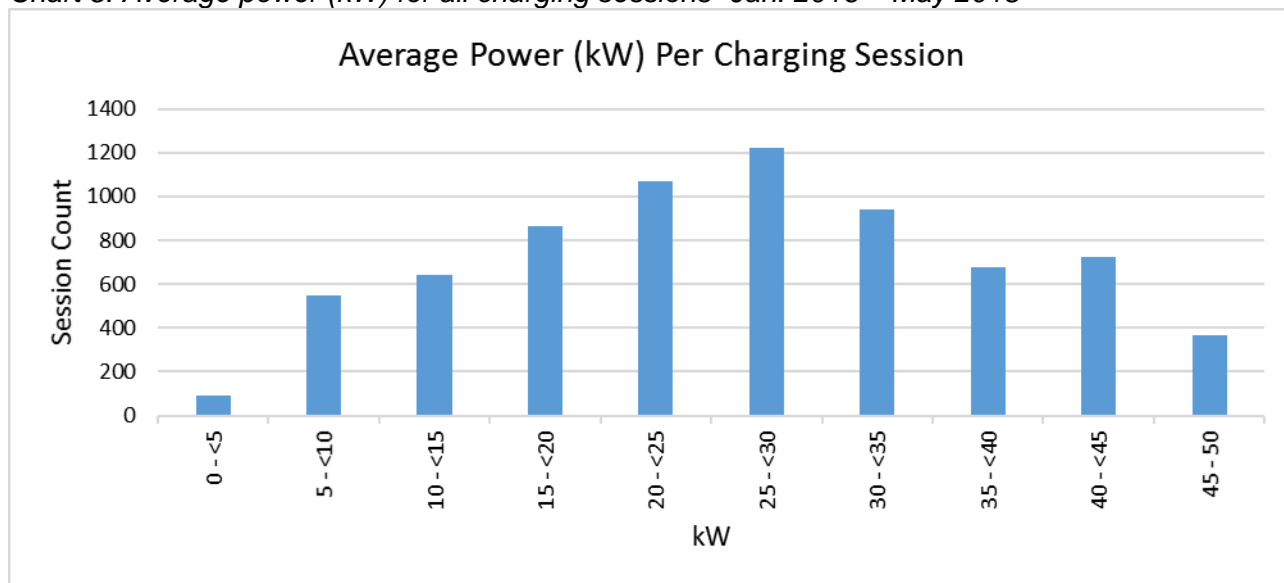


Chart 5: Average power (kW) for all charging sessions- Jan. 2016 – May 2018



DISCUSSION:

Staff proposes to extend the research and development phase through December 31, 2018. The new Electric Rate Schedule PCS: Electric Vehicle – Direct Current Fast Charging Public Charging Station (Electric Rate Schedule PCS) approved by City Council on May 22, 2018, will become effective on January 1, 2019, and in the first year includes a Customer Charge of \$0.12 per charge and an Energy Charge of \$0.1425 per kWh. The extended research and development phase will allow RPU to continue to collect customer acceptance/usage and electrical load information and allow for Electric Rate Schedule PCS to become effective with the approved electric rates. Usage through June 2018 has resulted in charges of \$24,836. The remaining and additional Public Benefits funding is expected to pay for energy consumption through the research and development period as customer usage continues to increase.

FISCAL IMPACT:

The energy consumption and demand charges are estimated to be an additional \$10,000 during the research and development period. Sufficient funds are available in the Public Utilities Public Benefits Account No. 6020100-456026 for this purpose.

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Approved by: Todd L. Jorgenson, Interim Utilities General Manager
Approved by: Al Zelinka, FAICP, City Manager
Approved as to form: Gary G. Geuss, City Attorney

Certifies availability of funds: Laura M. Nomura, Utilities Assistant General Manager/Finance & Administration

Attachment: Electric Rate Schedule PCS: Electric Vehicle – Direct Current Fast Charging Public Charging Station

Site Location

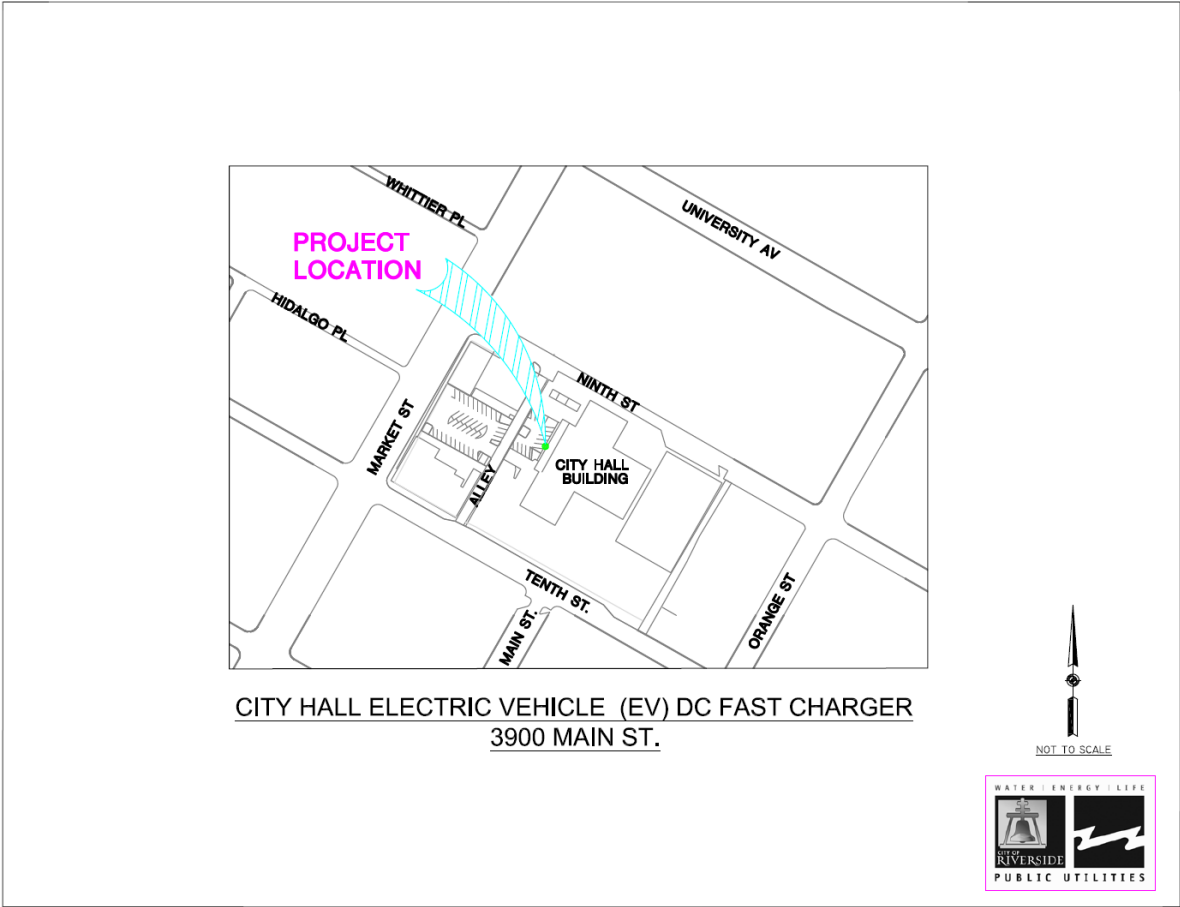


Photo of EV DC Fast Charger at City Hall

