RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES **DATE**: DECEMBER 12, 2016

ITEM NO: 5

SUBJECT: **EXTENSION OF THE RESEARCH AND DEVELOPMENT PERIOD THROUGH DECEMBER 31, 2017 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 $25,000**

ISSUE:

Authorize the extension of the research and development period through December 31, 2017 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 $25,000.

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 for an additional 12 month period through December 31, 2017; 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 $25,000.

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 to provide 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. This data is necessary to support meaningful rate analysis for this type of service, and 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 energy consumption (kWh) and demand (kW) usage data for the station. The electric account is billed at a commercial rate and reimbursed with Public Benefits funds. 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 project are allowed under the law.

The charts below summarize customer usage information collected from September 2015 through August 2016 at the EV DC Fast Charging Station at City Hall. As reflected in Chart 1, customer acceptance of the EV DC Fast Charger at City Hall continues to increase. Charts 2 – 4 include usage data collected for the same timeframe.

Chart 1: Total number of charging sessions per month – Sept. 2015 – Aug. 2016

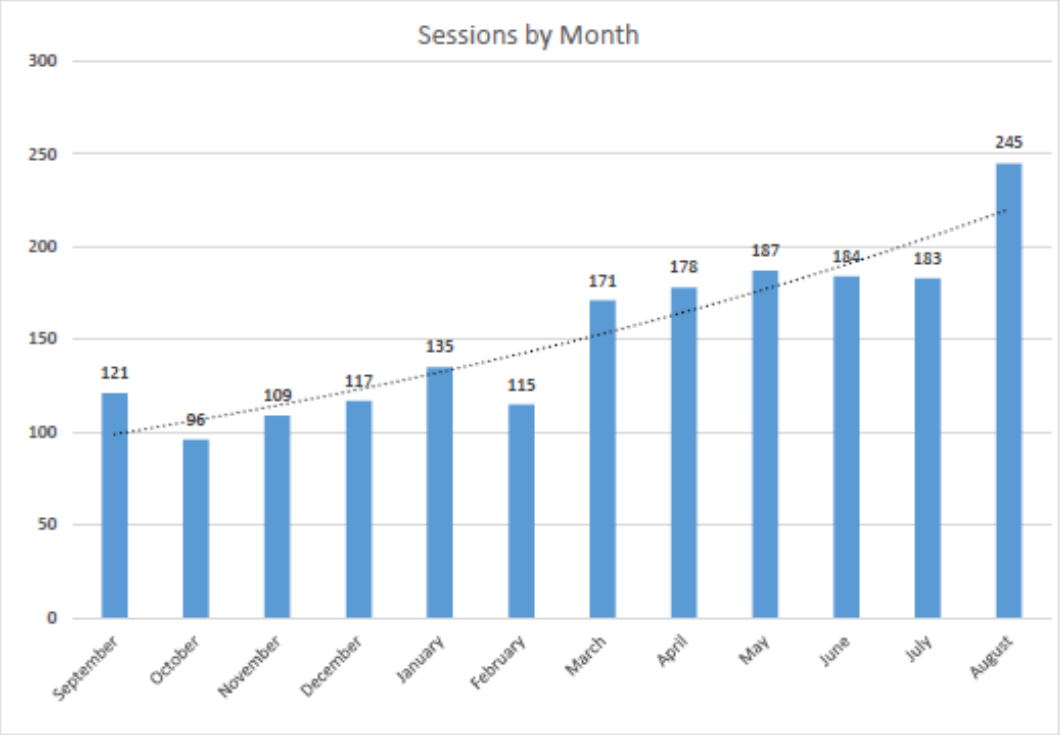


Chart 2: Total number of charging sessions by day of the week

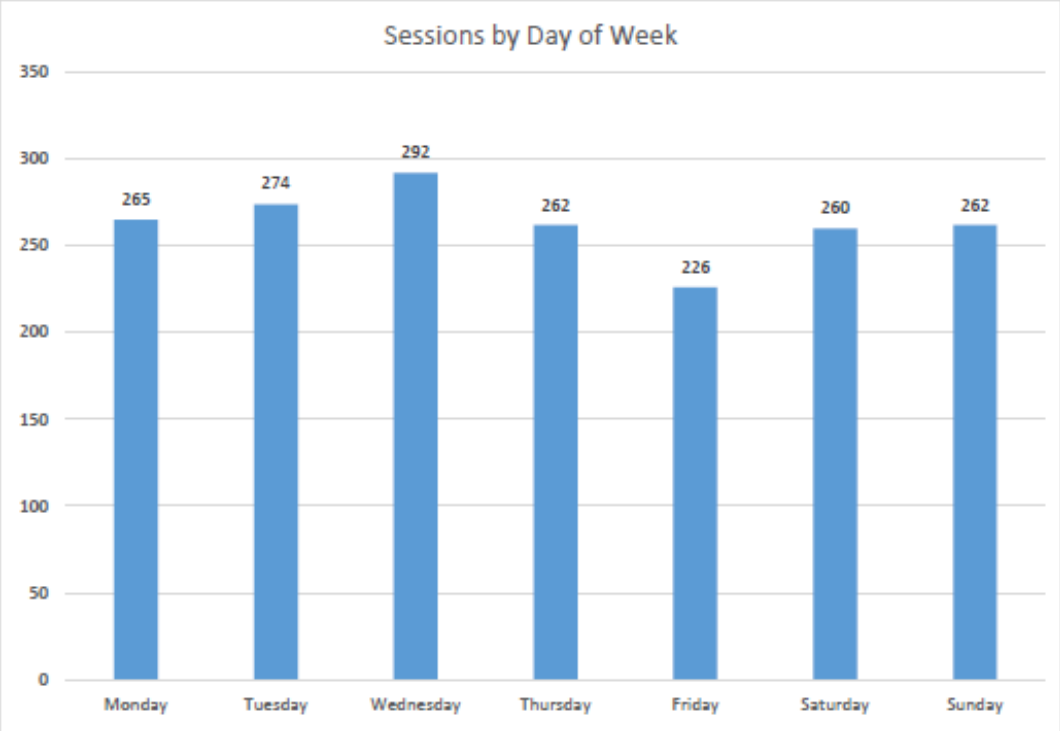


Chart 3: Duration of charge in minutes for all charging sessions

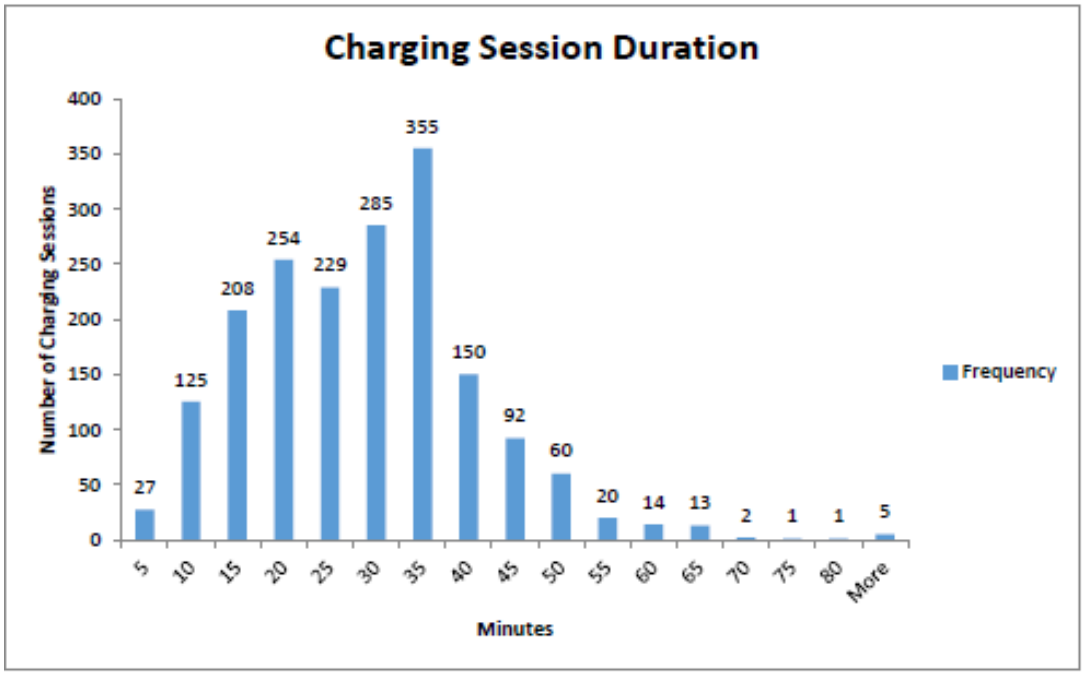
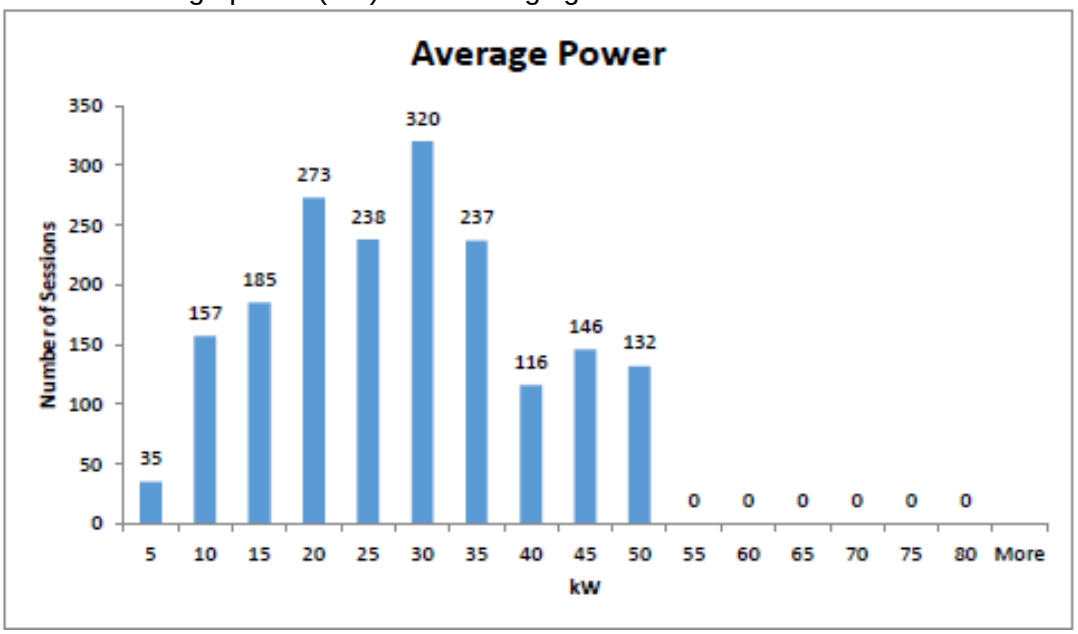


Chart 4: Average power (kW) for all charging sessions



Staff proposes to extend the research and development phase an additional 12 months to continue to collect customer acceptance/usage and electrical load information. The usage and load information collected during the extended research and development period will provide additional information to develop an EV DC Fast Charging pricing policy and rate design. Prior to the expiration of the research and development phase (through December 2017), staff will propose an EV DC Fast Charging pricing policy for consideration by the Board and City Council. Usage through October 2016 has resulted in charges of $5,531. The remaining and additional Public Benefits funding is expected to pay for energy consumption through the research and development period as the charging station transitions from the commercial flat to demand rate and 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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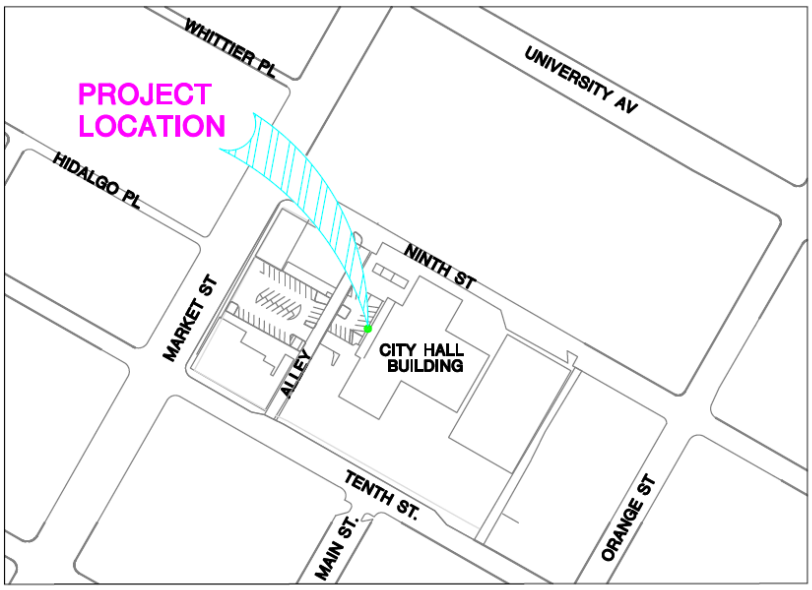
Approved as to form: Gary G. Guess, City Attorney

Certifies availability
of funds: Laura Chavez-Nomura, Public Utilities Assistant General Manager/Finance

Site Location



CITY HALL ELECTRIC VEHICLE (EV) DC FAST CHARGER
3900 MAIN ST.

NOT TO SCALE

WATER | ENERGY | LIFE
CITY OF RIVERSIDE
PUBLIC UTILITIES

Photo of EV DC Fast Charger at City Hall