

**FINAL REPORT**

**MSRC AB 2766 DISCRETIONARY FUNDS PROJECT**

**CONTRACT NO. MS14076**

**INSTALL PUBLIC ACCESS CNG STATION**

**RIALTO UNIFIED SCHOOL DISTRICT**



**November 1, 2019**

**Prepared for the Mobile Source Air Pollution Reduction Review Committee (MSRC) under the AB 2766  
Discretionary Funds Project**

### ACKNOWLEDGEMENTS

Rialto Unified School District (RUSD) wishes to acknowledge Mobile Source Air Pollution Reduction Review Committee (MSRC), California Energy Commission (CEC), RUSD Board of Education and Mohammad Z. Islam, for providing funding, support, and guidance.

This report was submitted in fulfillment of MSRC Contract No. MS14076 and “Rialto Unified School District is to install and maintain a new compressed natural gas (CNG) station located 260 South Lilac Avenue, Rialto, CA,” by Rialto Unified School District under partial sponsorship of Mobile Source Air Pollution Reduction Review Committee (MSRC). Work was complete as of May 9, 2018.

### DISCLAIMER

The statement and conclusions in this report are those of the contractor and not necessarily those of the Mobile Source Air Pollution Reduction Review Committee (MSRC) or the South Coast Air Quality Management District (SCAQMD). The mention of commercial products, their sources or their uses in connection with material reported is not to be construed as either an actual or implied endorsement of such products.

## **Executive Summary**

Rialto Unified School District (RUSD) partners with Mobile Source Air Pollution Reduction Review Committee (MSRC) and California Energy Commission (CEC) to build a public CNG stations located in Rialto, CA. Rialto Unified School District owns a fleet of school buses to transport students to and from school. South Coast Air Quality Management District required all new school buses to use alternative fueled engines. The number of alternative fuel buses increased at a rapid rate while CNG fueling stations remained stagnant. With the \$225,000 in grant support from MSRC, along with \$500,000 in grant support along with RUSD contribution, Rialto Unified School District was able to install Two (2) fast-fill vehicle fueling positions (pumps) and roof structure; CNG equipment enclosure to house three (3) CNG storage tanks, three (3) CNG compressors, and one (1) backup generator; Storm water facilities; Utility upgrades to support operations; and Hardscape/landscape improvements.

## **Task Completed**

<b>Task</b>	<b>Task Description</b>	<b>Task Completion</b>
<b>1</b>	<b>Gas Dryer</b>	<b>(100 %) Complete</b>
<b>2</b>	<b>Two Compressors providing at least 800 SCFM combined with capability</b>	<b>(100 %) Complete</b>
<b>3</b>	<b>Two- dual hose fast-fill dispensers (total of four hoses)</b>	<b>(100 %) Complete</b>
<b>4</b>	<b>At least 30,000 SCF storage capacity</b>	<b>(100 %) Complete</b>
<b>5</b>	<b>Card readers capable of accepting MasterCard , VISA, and American Express (may also accept other forms of payment)</b>	<b>(100 %) Complete</b>
<b>6</b>	<b>Associated equipment including flow metering, electrical panel, etc.</b>	<b>(100 %) Complete</b>

## **Project Description and Work Performed**

For this project the Rialto Unified School District used previously owned property, which was not being used, located within the school district boundaries (Figure 1) to build a Compressed Natural Gas fueling station (Figure 2) with two fast-fill fueling pumps to fuel the existing 28 CNG school buses and the additional 29 CNG school buses acquired from 2016 through 2018.

**Figure 1: “Location for CNG Fuel Infrastructure”**



Photo Credit: Nereida Camacho; October, 2015

**Figure 2: Location for CNG Fuel Infrastructure As-Build**



Photo Credit: Iris Chu; April 2018

### **Problems Encountered**

During the first few months of the CNG project, there were several delays that were unavoidable and unforeseen at the time of the planning process. The activities performed from the award bid to the final commissioning took approximately two years and one month. After the commissioning, it was determined that the County of San Bernardino Department of Agriculture, Weights and Measurements is required to complete a weight and measures tests prior to selling to any type of fuel to the public which took place on May 7, 2018.

Unforeseen activities which resulted in delays to the project:

March, 2016, the building design did not include a "Data Room" which is a separate structure to protect the equipment servers, electrical panels, and phone lines. This was discovered as a result of the requirement for the fuel management software and network requirements. The revision was approved by the city on June 21, 2016.

A design change took place from October 2016 to April 2017 to include infrastructure due an Electrical School Bus Grant from the Federal Department of Energy. Rialto Unified School District is to receive eight (8) electric school buses from Bluebird in 2020. Due to the increase of the eight additional Electric buses, the electricity supply was increased from one 4,000 amp, grid to a capacity, to two 4,000 amp grid. Construction timeline was extended for two additional months as a result of the delay from Southern California Edison (SCE), and the need to upgrade our electrical system to accommodate electrical powered school buses. It was determined that it would be cost effective to do the upgrading now at this phase in order to avoid the cost of having to re-open and dig underground after the high pressure gas lines were installed. By April 2017 all changes were approved by Southern California Edison and upgrades were installed.

April 2017, the original Electrical vaults were not acceptable to the Edison field inspector. The electrical vaults had to be removed and RUSD had to order new vaults. This delayed the project three (3) weeks, new vaults arrived on Friday, May 12, 2017. The vaults were installed and approved by the Edison inspector.

Figure 3: Original Electric Vaults



Photo: Original Electrical Vault

Figure 4: New Electric Vaults



Photo: New Electrical Vault

From July 2017 - March 2018 delays occurred, due to electrical issues that were avoidable. There was a miscommunication between the Edison inspector and the contractor concerning underground work and what Edison was requiring that was outside the approved plans by Edison. This issue was resolved and power was supplied to the site. Everything up until that point was depending on having electrical service.

The equipment was scheduled for commissioning on August 7, 2017 but we had to cancel that date. ANGI representative arrived November 28, 2017 to power up the system and pressurize the gas lines. On Wednesday, November 29, 2017 they detected leaks and determined there was an issue with several valves (18) installed. All of these will need to be replaced before the system can be commissioned. The equipment was commissioned on February 13, 2018.

### Photographs & Outreach



Photo Date March 14, 2016



**Photo: CNG Station**



**Photo: CNG station at night**



**Photo: 3 CNG Storage Tanks**



**Photo: 2 Angi Compressors**



**Photo: CNG Dryer**



**Photo: CNG Generator**



**CNG Dispenser**

LOCAL NEWS

## Rialto Unified's new Compressed Natural Gas fueling station key to 'environmental literacy' in district



Rialto Unified's Compressed Natural Gas fueling station is open to the public 24 hours a day, seven days a week. The school district unveiled the four-pump depot on Monday, June 25. (Photo by Brian Whitehead, The Sun/SCNG)

By **BRIAN WHITEHEAD** | [bwhitehead@scng.com](mailto:bwhitehead@scng.com) | San Bernardino Sun

PUBLISHED: June 25, 2018 at 2:39 pm | UPDATED: November 23, 2018 at 11:06 am

**Photo: News Article from San Bernardino Sun Online dated 06-25-18**

### Summary and Conclusion

The funding from MSRC allows Rialto Unified School District to continue to reduce their carbon footprint by building a station within ¼ mile of the Transportation yard. The MSRC funding allowed the contractor to build a CNG public station to continue to significantly reduce emissions in the City of Rialto and surrounding communities.

School buses owned and operated by the district were traveling from different locations within the RUSD boundary to 1810 Agua Mansa Rd, Riverside, CA daily to refuel CNG buses. The round trip totaled approximately 11.2 miles. Building the CNG station  $\frac{1}{4}$  mile away from the bus yard reduced the labor cost and fuel consumption.