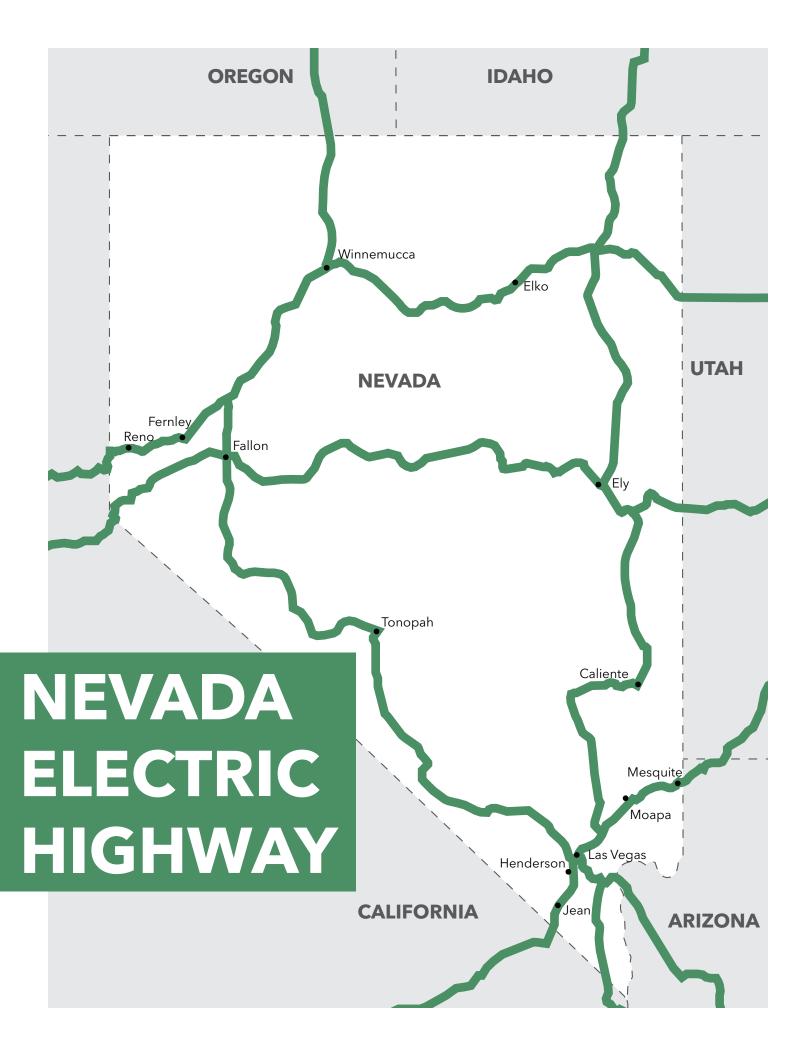
# NEVADA **ELECTRIC HIGHWAY** Electrifying Nevada's major corridors WEST **Governor's Office of Energy**



# TABLE OF CONTENTS

Acknowledgements	4
NEH Overview	4
NEH Climate Impacts	6
NEH Program: Requirements & Funding	7
REV West	
FHWA, Alternative Fuels Program	
NEH Project Sites (I-15)	
NEH Project Sites (US 93)	12
NEH Project Sites (US 95)	
NEH Project Sites (US 50)	
NEH Project Sites (I-80)	
Appendix (EV Registrations)	
Appendix (NEH sites listed)	
Appendix (Minimum Requirements)	
Appendix (Funding Breakdown)	



# OVERVIEW

## ACKNOWLEDGEMENTS

The Nevada Electric Highway program is made possible by partners throughout the Silver State, including the Nevada Department of Transportation (NDOT), Nevada Division of Environmental Protection (NDEP), NV Energy, Valley Electric Association, Alamo Power District, Harney Electric Cooperative, Lincoln County Power District, Mt. Wheeler Power, Overton Power District, Raft River Rural Electric, and Wells Rural Electric.

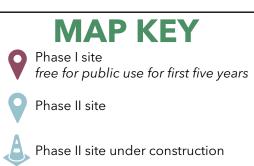
Funds from the U.S. Department of Energy's (DOE) State Energy Program (SEP) made much of this work possible. Finally, GOE thanks collaborating external partners including REV West, NASEO, FHWA, National Renewable Energy Lab, private sector partners for often hosting projects and the Utah Clean Cities Coalition.

## **PROGRAM OVERVIEW & HISTORY**

The Nevada Electric Highway (NEH) began as a partnership between the Governor's Office of Energy (GOE), NV Energy, and Valley Electric Association to expand Nevada's electric vehicle (EV) charging infrastructure, initially along US 95, with cost-effective and strategic installations.

GOE announced Phase I of the NEH program in June 2015 and outlined five initial sites along US 95 (Fallon, Hawthorne, Tonopah, Beatty, and Indian Springs). Businesses and government entities

along that corridor were encouraged to support EV infrastructure development by hosting charging stations. GOE expanded the NEH program in 2018 to include I-80, I-15, US 93, US 50 and add additional EV charging along US 95 (NEH Phase II). Phase I stations include two Level 2 chargers and one direct current fast charger (DCFC) and provide free charging for the first five years of operation. Phase II stations similarly required a minimum of two chargers but offered the option for both to be DCFC.







# **NEH OVERVIEW**

Additional funds for NEH came after the 2016 Volkswagen (VW) settlement with the US government related to VW's alleged violations of the Clean Air Act by cheating on emissions tests. Nevada was allocated \$24.8 million to fund projects intended to offset excess pollution emitted by VW vehicles statewide. GOE received \$3.7 million, 15 percent of Nevada's \$24.8 million, to assist in expanding the NEH. <u>View more information on the VW</u> <u>Settlement or the Nevada's Beneficiary Mitigation Plan</u>.

The identification of strategic locations included those that could complete corridors for compliance with the FHWA Alternative Fuel Corridor EV distance requirements of 50 miles between stations. Additional FHWA information is found on page 9. Since NEH's initial mapping, private entities, primarily Electrify America, have installed EV chargers along Nevada's highways. This allowed GOE to leverage its NEH investments to build out other locations for corridor completion.

In May of 2018, GOE officially kicked off the NEH Phase II program, seeking partners to build another 38 EV charging station locations across the state. The Phase II goal included determining whether EV infrastructure on interstate corridors I-80 and I-15 and state highways US 95 and US 50 highways could be installed to meet the 50-mile increment required by the FHWA program. When Phase II is completed, there will be a total of 30 EV charging station locations. Funding for these installations is detailed in the appendix on page 28. As of March 2021, 21 stations have been built. Seven stations are in-progress and the last two are in a site selection phase; these remaining sites are currently proposed to be finished by June 2021.

As a result of the NEH program, Nevada has become one of the leading voices in the intermountain west for transportation electrification. GOE serves as the co-chair for the Regional Electric Vehicle Plan for the West (REV West) partnership, providing the Nevadas perspective as the region's keystone state linking the west coast and intermountain west. Additional information on REV West can be found on page 7.

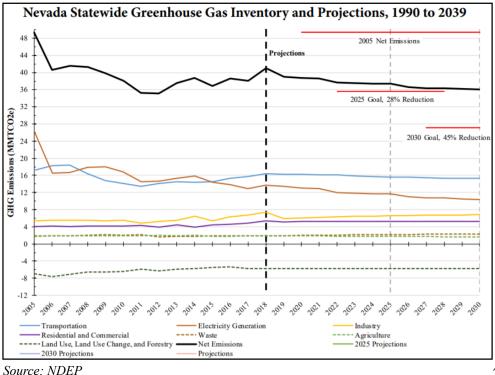


New to EVs? View the National Governors Association fact sheet.





# NEH CLIMATE IMPACTS



Climate change has come to Nevada, including drought that risks water supply, wildfires that are increasing in frequency and duration and heat waves that are expected to increase in both frequency and duration in Las Vegas, the fastest warming city in the United States (source) and Reno. These impacts pose significant health risks to Nevada's urban communities, especially to vulnerable populations and outdoor workers. In 2019. Nevada took multiple actions to tackle climate change and reduce carbon emissions economy-wide, including: joining the U.S. Climate Alliance, passing Senate Bill 254 (2019), Governor Sisolak's

execution of Executive Order 2019-22, and completion of a greenhouse gas (GHG) emissions inventory.

The 2019 and the 2020 inventories identified transporation (**source**) as Nevada's largest source of emissions at 36 percent of all statewide emissions. Nevada's carbon reduction targets cannot be met without tackling emissions from transportation. Electric vehicles produce zero direct emissions, which specifically helps improve air quality in urban areas, providing one important opportunity for transportation sector emission reductions.

By providing the "fueling" needed for EVs, the NEH supports Nevada's climate goals. Providing the charging infrastructure to electrify Nevada's highways allows the growing number of EV drivers (refer to the chart on page 24) to travel to and throughout Nevada in zero-emission EVs. Supporting the development of a robust charging EV infrastructure eliminates range anxity, one of the primary concerns cited in deciding whether to purchase a zero-emission vehicle (source).

The NEH can provide peace of mind to drivers regarding the availability of charging on Nevada's highways and eliminate that barrier to purchasing an EV. GOE views this opportunity to match EV charging needs with a growing number of EV drivers, and those considering an EV, as a critical piece of the puzzle for decarbonizing the transportation sector.



# FUNDING REQUIREMENTS

GOE awards funding for EV charging stations along identified corridors through a reimbursable subgrant process to electric service providers statewide. These subgrantees operate and maintain the EV charging stations either through direct ownership or by executing third-party host site agreements within their service territories for the stations. GOE identifies general locations for charging stations, while the specific sites, which meet GOE requirements as set forth in the appendix on page 27, are selected by subgrantees. Electrify America is also investing in charging stations along I-80 and I-15. NEH subgrantees may not use funds for projects in locations where EV charging has already been installed.

GOE subgrantees must install infrastructure within Nevada and along one of the five targeted corridors. NEH projects proposed along one of the planned FAST Act corridors must either be built at one of the locations shown in this report or within 50 miles of the next site, and no further than five miles from the highway.

# **REV WEST**

REV West was established by eight intermountain west governors signing a <u>memorandum of understanding</u> (MOU) on October 12, 2017. Signatory states include Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming. The MOU established a framework for creating an intermountain west EV corridor network that will lessen range anxiety and make regional travel possible for EV drivers across the west.

In <u>December 2019, the eight signatory states updated the</u> <u>REV West MOU</u>, recommitting to this regional work. The updated MOU, signed by Governor Sisolak, strengthened this collaboration and detailed the path to continue work toward the buildout of an intermountain west EV corridor. The MOU also summarized REV West's progress to date, outlined the activities the signatory states intend to undertake, and identified an implementation process.

The MOU outlines, among other goals, consumer and fleet manager awareness, EV charging station coordination to avoid redundancy and optimize user experiences, minimum standards for EV charging stations, infrastructure planning to incorporate renewable energy generation and building codes.





# **REV WEST**

Finally, in December 2020, <u>the REV West partnership released a progress report</u> highlighting the work since the initial formation in 2017. Highlights of this report include:

- More than 100 DC fast-charging stations built by private and public sectors, with at least 75 additional stations in the planning phase;
- Collectively engaged the FHWA for federal support through the Alternative Fuels Corridor program, leading to nearly 1,250 miles of designated EV charging corridors, and more than 7,500 miles of "corridor pending" highways;
- Electric Vehicle Policy Baseline for the Intermountain States Report (October 2018);
- Voluntary Minimum Standards for DCFC stations report (December 2019);
- Leveraged DOE SEP funds and other sources to enhance coordination between State Energy Offices and transportation agencies on:
  - Addressing regulatory barriers to EV station development and signage;
  - Identifying infrastructure gaps;
  - Developing DC fast-charging station analysis maps for internal planning;
  - Exchanging model EV programs and sharing strategies for EV program design;
- Obtained DOE funding as part of the Corridors for the West (CORWest) grant led by the Utah Clean Cities Coalition, which identifies barriers to EV adoption and supports infrastructure deployment in rural and remote areas, while engaging key stakeholders and increasing public awareness; and
- Enhanced state engagement with electric service providers as partners on infrastructure development.



Governor Steve Sisolak charges an electric vehicle at the ribbon cutting of Mesquite's NEH charging station that completes the I-15 corridor in Nevada. Also, pictured is Mendis Cooper (left), Manager of Overton Power District No. 5 and Doug Cannon (right), NV Energy, President and CEO. January 2020. Source: Nevada Department of Transportation



# **FHWA ALTERNATIVE FUELS**

The U.S. DOT's FHWA administers the Alternative Fuel Corridors program. Under the Fixing America's Surface Transportation Act (FAST Act), the Alternative Fuel Corridors program provides a national framework for alternative fueling and EV charging. The Alternative Fuel Corridors program includes the following fuel/technologies: electric vehicles, hydrogen, propane, liquid natural gas, and/ or compressed natural gas.

The program:

- provides the opportunity for annual corridor designations on an annual basis;
- ensures that corridor designations are selected based on criteria that promote the build out of a national network for the designated fuel type;
- develops national signage and branding to help catalyze applicant and public interest;
- encourages multi-state and regional cooperation and collaboration; and,



• brings together a consortium of stakeholders including state agencies, utilities, alternative fuel providers, and car manufacturers to promote and advance these corridor designations in conjunction with DOE.

FHWA has hosted four rounds of Alternative Fuel Corridor Designations leading to the designation of approximately 145,000 miles of the National Highway System (all fuels combined). FHWA currently is seeking nominations for the fifth and final round of the program. Those nominations were due in late February 2021. Nevada, through the Nevada DOT and in consultation with GOE, has nominated US 95, I-80, I-15, US 50, I-580, and SR 28 around Lake Tahoe. Designations have been completed for I-15, I-58, and SR 28. The FHWA Alternative Fuel Corridor program also authorizes state DOTs to place alternative fuel corridor signage along a corridor after it is completed.

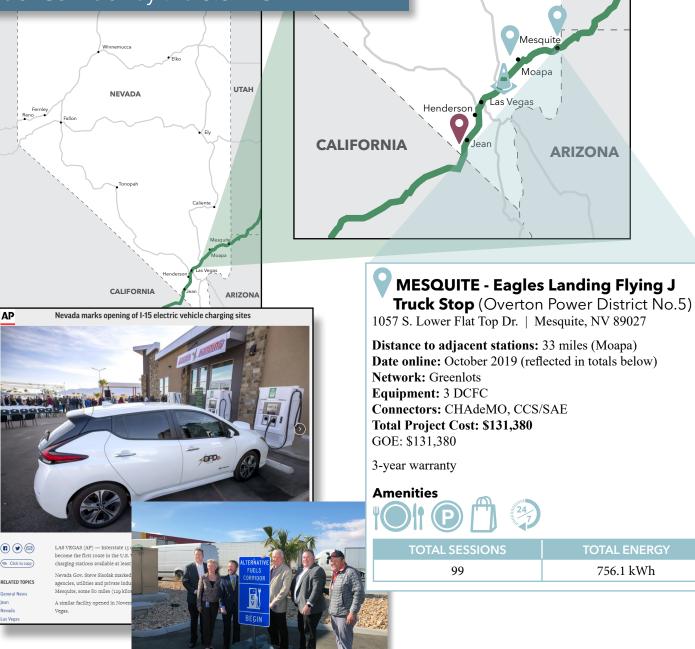
While Nevada has nominated its major highways for Alternative Fuel Corridor designations, current FHWA requirements present barriers unique to the West. FHWA's maximum distance of 50 miles between charging stations is challenging for the vast unpopulated areas of western states where power and other needed infrastructure (such as restrooms) are not available. Installation of EV charging stations at state rest stops offer a solution. However, FHWA prohibits fees for EV charging at these facilities limiting private investment options. Seeking solutions to these challenges remains a federal advocacy priority for Nevada and its intermountain west neighbors to ensure the region is not excluded in future funding potentially connected to Alternative Fuel Corridors.

In January 2020, Governor Sisolak of Nevada hosted a ribbon cutting ceremony in Mesquite, Nevada to

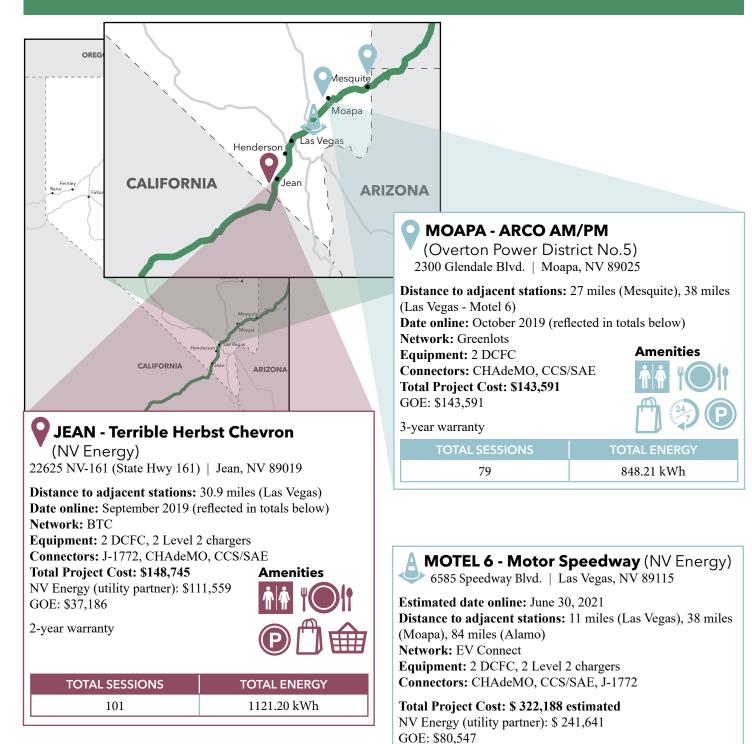


commemorate the work completed by the state, energy service providers and private partners to complete the build out all the necessary EV charging equipment for the I-15 corridor to be completed and signs to be placed.

#### I-15 has been designated an **Alternative Fuel Corridor** by the U.S. DOT FHWA.

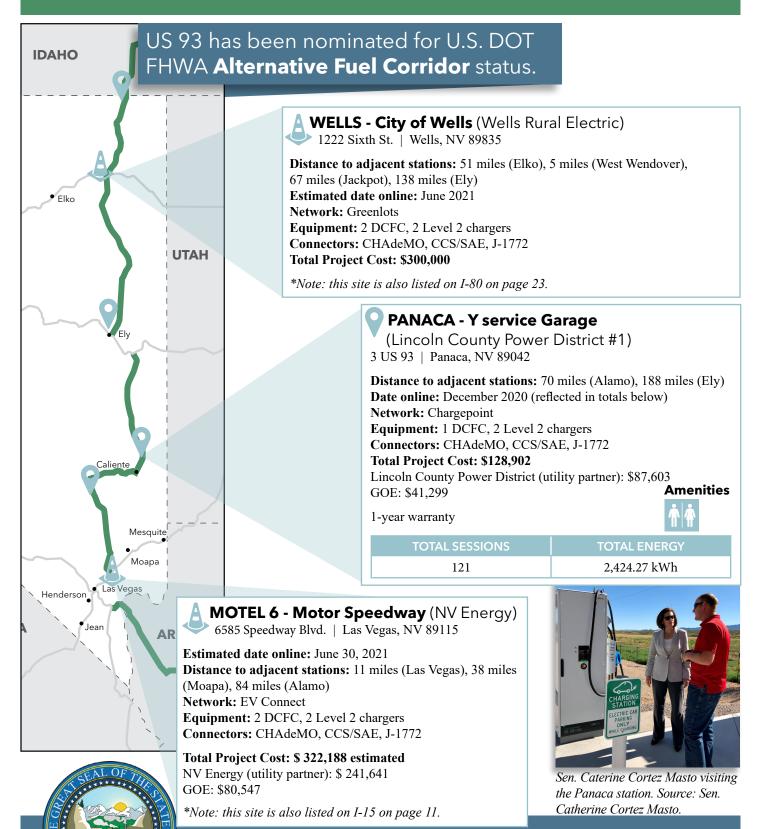


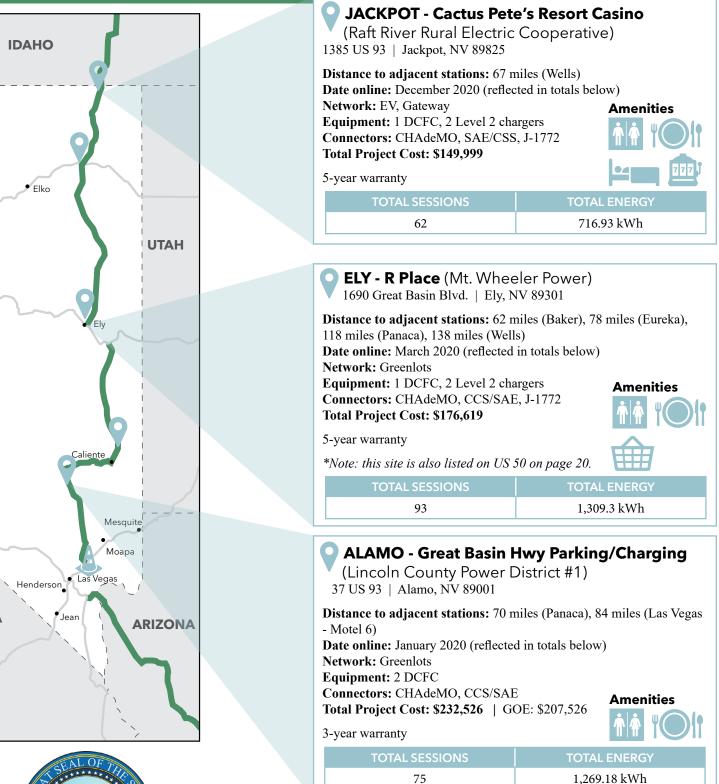




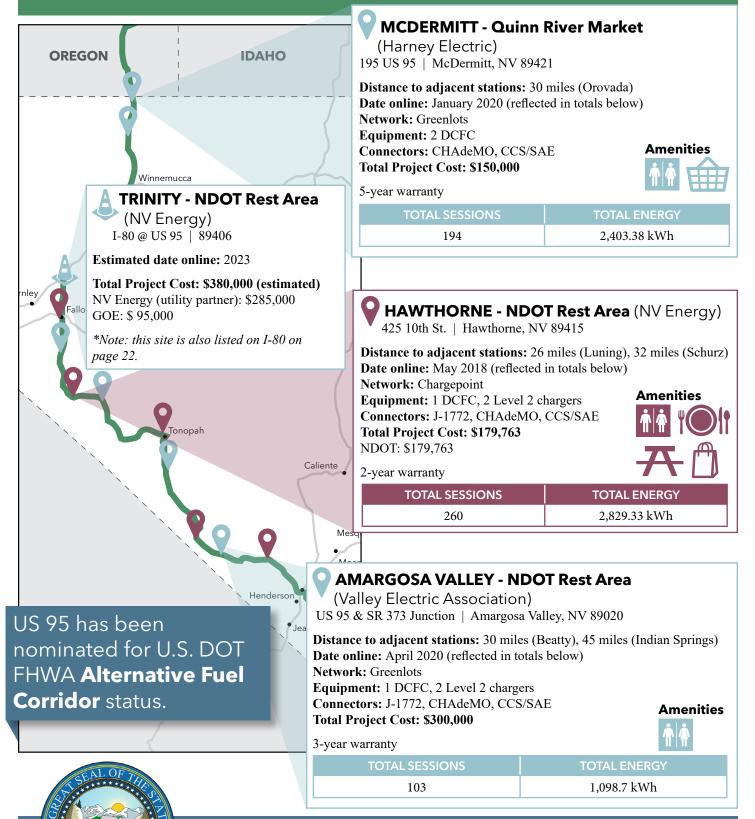
**Governor's Office of Energy** 

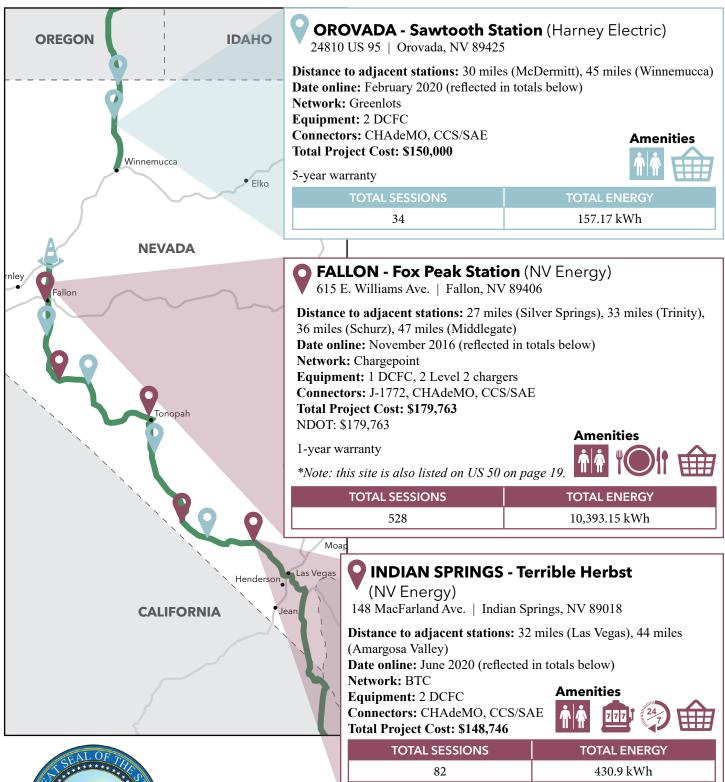
\*Note: this site is also listed on US 93 on page 12.



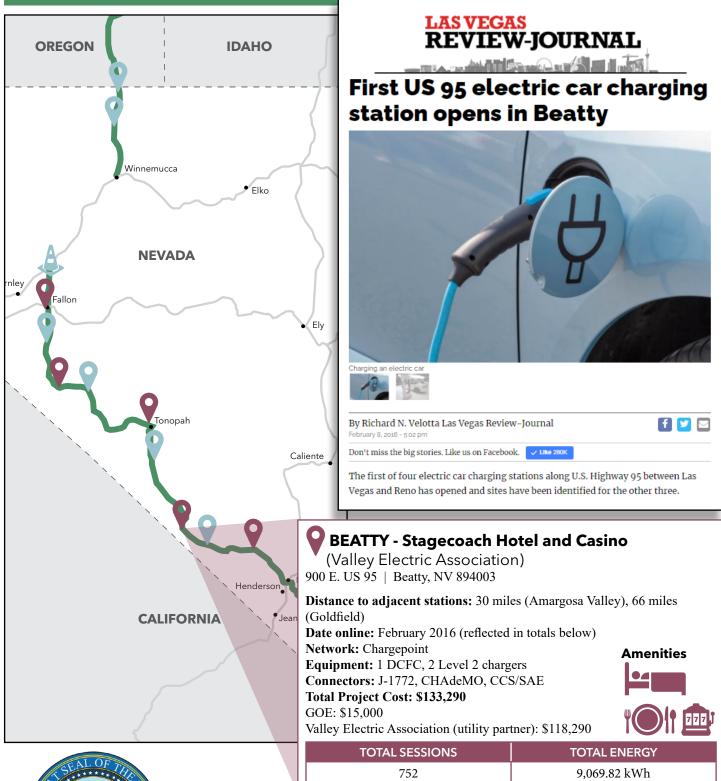




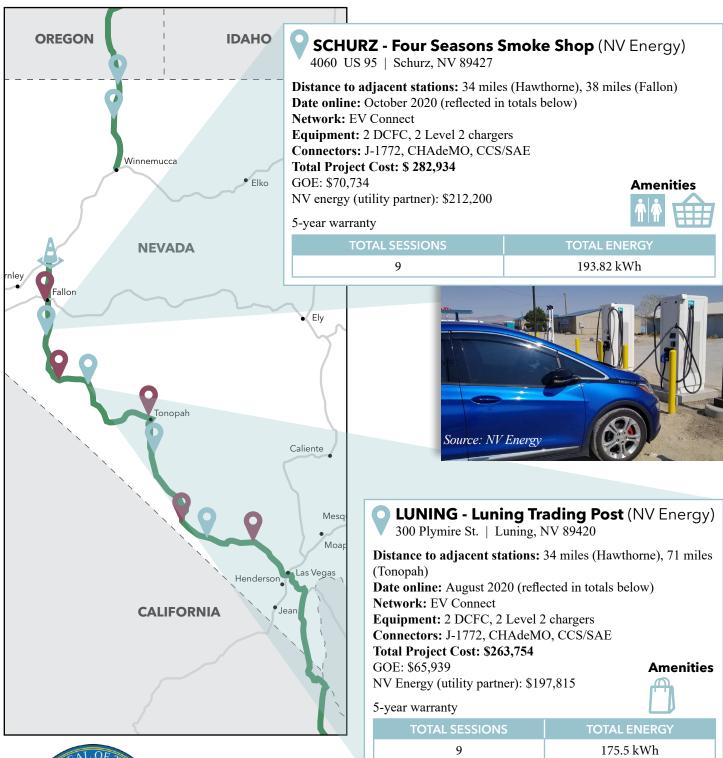




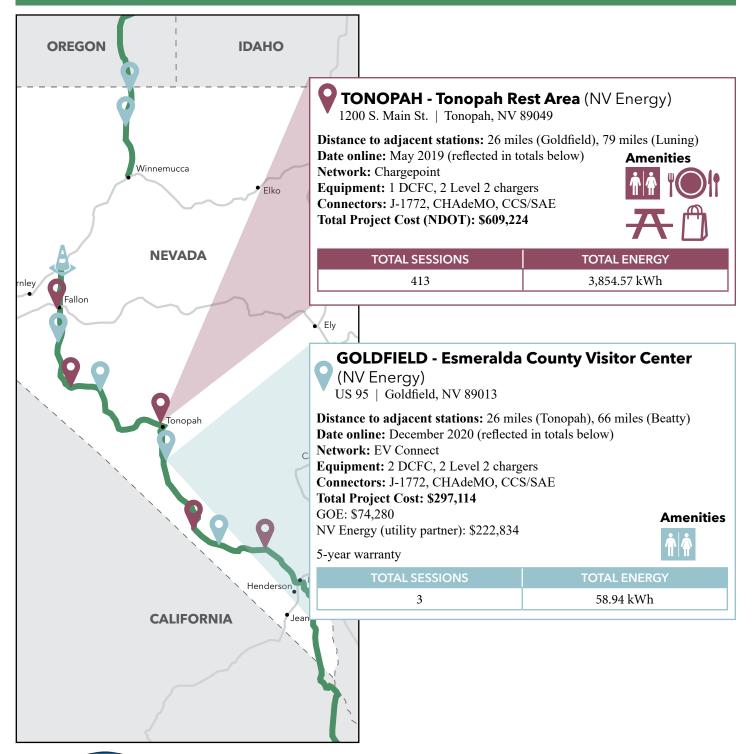








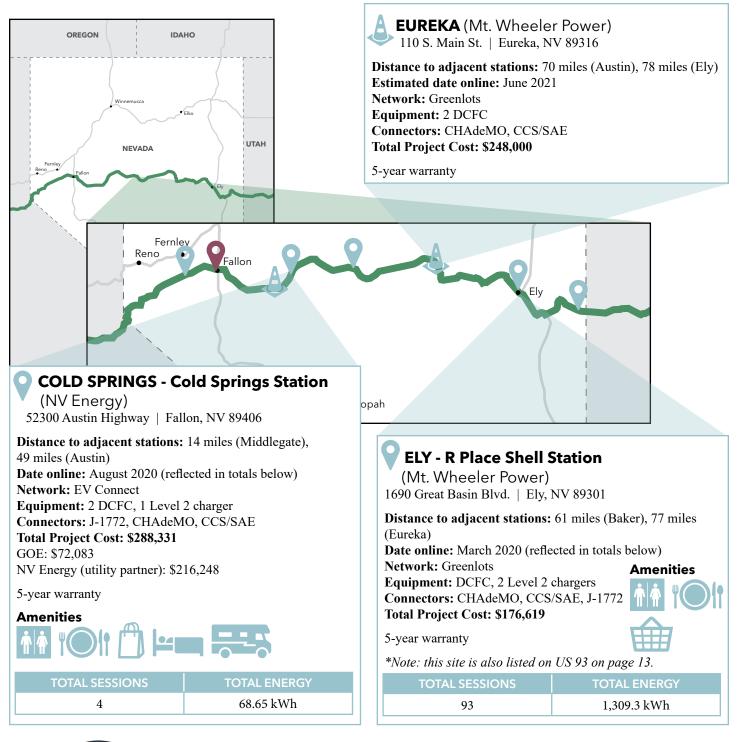




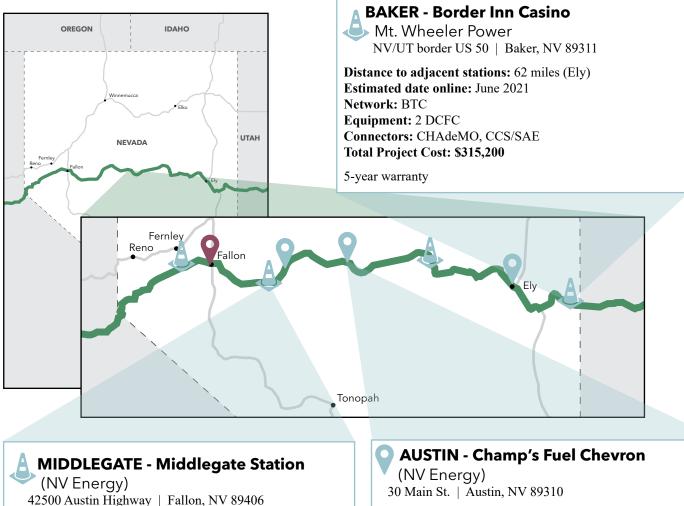


#### **NEVADA ELECTRIC HIGHWAY: US50 SILVER SPRINGS - Nugget Casino** US 50 has been (NV Energy) 1280 US 50 | Silver Springs, NV 89429 nominated for U.S. DOT **Distance to adjacent stations:** 27 miles (Fallon) 36 miles FHWA Alternative Fuel (Carson City) Date online: February 2021 **Corridor** status. Network: EV Connect Amenities Equipment: 2 DCFC, 2 Level 2 chargers Connectors: J-1772, CHAdeMO, CCS/SAE ПТАН NEVADA **Total Project Cost: \$242,702** GOE: \$60,676 NV Energy (utility partner): \$ 182,027 Fernley Reno Fallon Ely Tonopah FALLON - Fox Peak Station (NV Energy) 615 E. Williams Ave. | Fallon, NV 89406 **Distance to adjacent stations:** 38 miles (Schurz) Date online: November 2016 (reflected in totals below) Network: Chargepoint Equipment: 1 DCFC, 2 Level 2 chargers Connectors: J-1772, CHAdeMO, CCS/SAE **Total Project Cost: \$179,763** Amenities NDOT: \$179,763 H 1-year warranty \*Note: this site is also listed on US 95 on page 15. TOTAL SESSIONS **TOTAL ENERGY** 10,393.15 kWh 528









Distance to adjacent stations: 14 miles (Cold Springs), 47 miles (Fallon) Estimated date online: March 2020 Network: Freewire Equipment: DCFC, 2 Level 2 chargers Connectors: J-1772, CHAdeMO, CCS/SAE Total Project Cost: \$600,000 GOE: \$225,000 NV Energy (utility partner): \$ 375,000

#### (INV Energy) 30 Main St. | Austin, NV 89310 Distance to adjacent stations: 48 miles (Cold Springs), 70 miles (Eureka) Date online: July 2020 (reflected in totals below) Network: EV Connect

Equipment: 2 DCFC, 1 Level 2 chargers Connectors: J-1772, CHAdeMO, CCS/SAE Total Project Cost: \$298,067

GOE: \$74,517 NV Energy (utility partner):

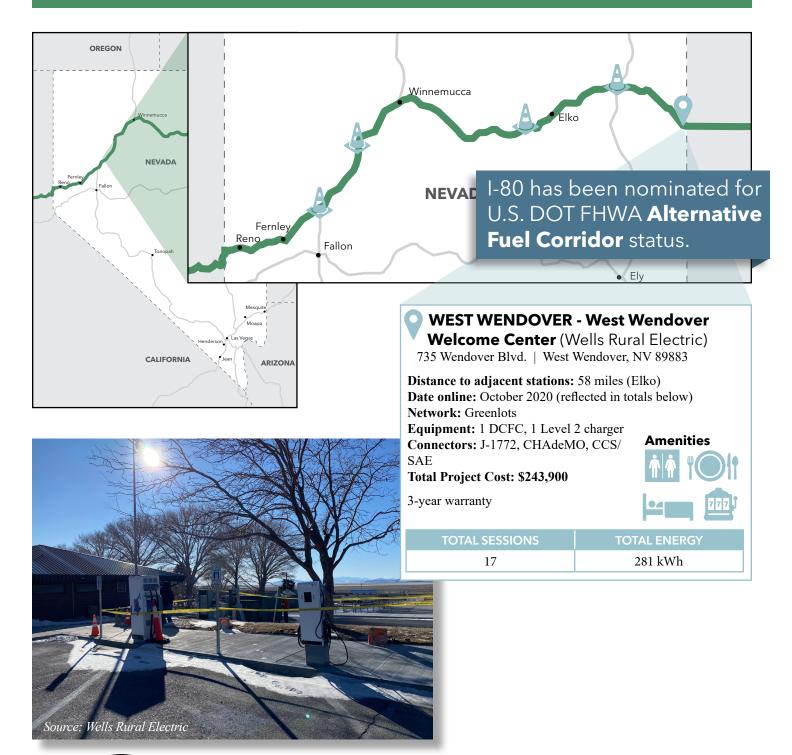
Amenities

5-year warranty

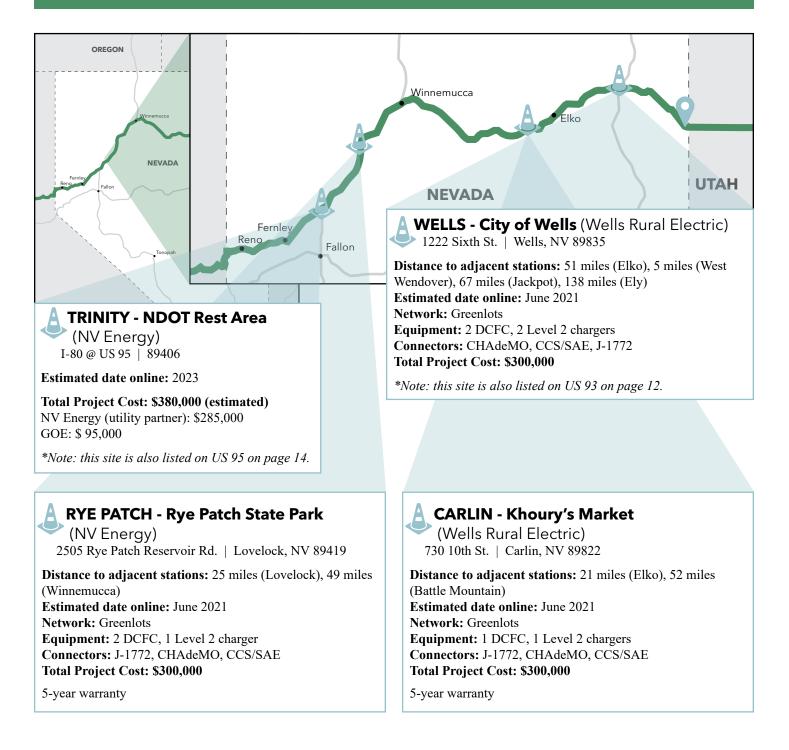
\$223,550

TOTAL SESSIONS	TOTAL ENERGY
33	894.83 kWh





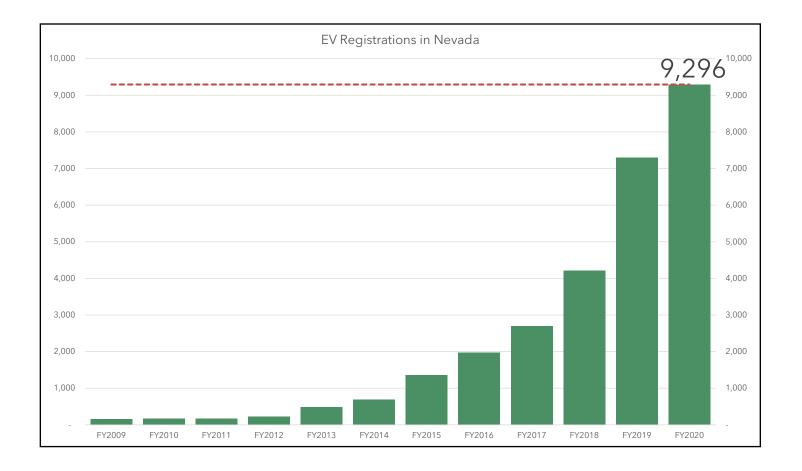






## **APPENDIX: EV REGISTRATIONS**

NEH provides the opportunity for Nevada's EV drivers to enjoy the State's tourism opportunities, as Nevada continues to see steady growth of all EVs entering into the market. While EVs represent less than one percent of the total vehicle registration in Nevada, this graph shows a solid trend of growth in the EV market while Nevada continues to invest in the EV charging infrastructure to support these drivers. Source: Nevada DMV (Sept. 2020)





## **APPENDIX: NEH SITES LISTED**

#### Corridors and General Site Locations (April 2018, modified February 2021).

SITE	CORRIDOR	APPROXIMATE LOCATION	UTILITY	FAST ACT	2021 STATUS
1	I-15	Primm	NV Energy	Yes	Built in Jean
2	I-15	I-15 / U.S. 93 Jct.	NV Energy	Yes	In-Progress
3	I-15	Moapa	Overton Power District	Yes	Built
4	I-15	Mesquite	Overton Power District	Yes	Built
5	I-80	Fernley	NV Energy	Yes	Removed - built by Electrify America
6	I-80	I-80 / U.S. 95 Jct.	NV Energy	Yes	Under evaluation
7	I-80	Lovelock	NV Energy	Yes	Removed - built by Electrify America
8	I-80	Mill City / Imlay	NV Energy	Yes	In-progress at Rye Patch State Park
9	I-80	Winnemucca	NV Energy	Yes	Removed - built by Electrify America
10	I-80	Valmy	NV Energy	Yes	Removed - no viable host site
11	I-80	Battle Mountain	NV Energy	Yes	Removed - built by Electrify America
12	I-80	Carlin	Wells Rural Electric Company	Yes	In-progress
13	I-80	Elko	NV Energy	Yes	Removed - built by Electrify America
14	I-80	Wells	Wells Rural Electric Company	Yes	Built
15	I-80	Oasis	Wells Rural Electric Company	Yes	Removed - FHWA Exemption Sought
16	I-80	West Wendover	Wells Rural Electric Company	Yes	Built
17	U.S. 95	Schurz	NV Energy	Yes	Built
18a	U.S. 95	Luning	NV Energy	Yes	Built
18b	U.S. 95	Mina	NV Energy	Yes	Removed - built at Luning
19	U.S. 95	Coaldale	NV Energy	Yes	Removed - no viable host site
20	U.S. 95	Goldfield	NV Energy	Yes	Built



## **APPENDIX: NEH SITES LISTED**

#### Corridors and General Site Locations (April 2018, modified February 2021).

SITE	CORRIDOR	APPROXIMATE LOCATION	UTILITY	FAST ACT	2021 STATUS
21	U.S. 95	U.S. 95 / SR 267 Jct.	Valley Electric Association	Yes	Removed - no viable host site
22	U.S. 95	Amargosa Valley	Valley Electric Association	Yes	Built
23	U.S. 95	Indian Springs	NV Energy	Yes	Built
24	U.S. 50	Silver Springs	NV Energy	No	In-progress
25	U.S. 50	Middlegate	NV Energy	No	Under evaluation
26	U.S. 50	Cold Springs	NV Energy	No	Built
27	U.S. 50	Austin	NV Energy	No	Built
28	U.S. 50	U.S. 50 Rest Area		No	Removed - no electricity.
29	U.S. 50	Eureka	Mt. Wheeler Power	No	In-progress
30	U.S. 50	U.S. 50 NDOT ROW	Mt. Wheeler Power	No	Removed - no viable host site
31	U.S. 50	Ely	Mt. Wheeler Power	No	Built
32	U.S. 50	U.S. 50 / U.S. 93 Jct.	Mt. Wheeler Power	No	Removed - no viable host site
33	U.S. 50	Baker	Mt. Wheeler Power	No	In-progress
34	U.S. 93	Coyote Springs	Lincoln County Power District	No	Removed - no viable host site
35	U.S. 93	Alamo	Lincoln County Power District	No	Built
36	U.S. 93	Sunnyside	Mt. Wheeler Power	No	Removed - no viable host site
37	U.S. 93	U.S. 93 / U.S. 93A Jct.	Mt. Wheeler Power	No	Removed - no viable host site
38	U.S. 93	Jackpot	Rafter River Rural Electric Coopera- tive	No	Built
39	U.S. 95	Orovada	Harney Electric Cooperative	Yes	Added - built
40	U.S. 95	McDermitt	Harney Electric Cooperative	Yes	Added - built



## **APPENDIX: MINIMUM REQUIREMENTS**

Final project sites do not need to be in an area shown above as long as the proposed sites meet the needs of the NEH and/or FAST Act designation, substitutions will be considered. (April 2018).

ITEM	MINIMUM REQUIREMENT	OPTION NEGOTIABLE ITEMS
Electric power supply and capacity at site location	A minimum of three-phase power must be available at the site with the electric capacity of 50KW per DCFC.	<ul><li>Station configuration dependent:</li><li>a. Back-up power generation (potential PV or battery storage)</li><li>b. Ancillary support (lighting, shade structures, etc.)</li></ul>
Equipment access on site	The equipment must be outdoors in a location accessible to the public.	
Equipment standards	A minimum of one DCFC with both SAE/CCS and CHAdeMO connectors, plus one additional charger (DCFC or Level 2) for a minimum total of two chargers at the site.	Additional DCFC and/or up to two Level 2 (SAE J1772) chargers
Equipment warranty	A minimum of one-year warranty must be purchased.	Up to five years
Equipment network and payment pptions	Equipment must support an open communication protocol standard and have the ability to accept a credit or debit card without incurring any additional fees.	Up to five years network and WiFi service
Network data access	Any communication to or from the charging equipment must use an open communication protocol standard and provide direct data access to GOE that shows kWh and cost data.	
Length of service and hours of operation	The charging station must be operational for a minimum of five years with accessible hours of operation 24 hours a day, 7 days a week, 365 days a year. Sites must have a toll-free number posted on or near the charging station for customers to call for 24/7 support.	
Ownership	The ownership of the charging station will be assigned to either the subgrantee or to a host site selected by the subgrantee. If the subgrantee assigns ownership to a host site, that agreement is subject to these terms and conditions and is subject to review by GOE. The state will not be designated as an owner of the charging station.	
Operation	If the station is determined to be non-operational during the term of the length of service, GOE reserves the right to remove the equipment purchased under this agreement.	
Project location	Where designated by GOE, project must meet FAST Act compliance (<50 miles from next charging station, <5 miles from highway).	
Safety requirements	The electric vehicle charging equipment shall be certified by the Underwriters Laboratories, Inc. (UL), or equivalent safety standard.	



In addition, GOE encouraged applicants to select charging site locations that have access to public restrooms and amenities. The hours of operation of the charging station only apply to the charging equipment, not any commercial activity at the site location. Ongoing operational and maintenance costs of the charging station will be the responsibility of the owner of the charging station.

## **APPENDIX: FUNDING BREAKDOWN**

ROW LABELS	TOTAL PROJECT COSTS	VW FUNDS	GOE REF
COMPLETED	\$4,507,497.03	\$1,944,926.89	\$337,871.04
Harney County Elec. Coop	\$300,000.00	\$240,000.00	\$60,000.00
McDermitt	\$150,000.00	\$120,000.00	\$30,000.00
Orovada	\$150,000.00	\$120,000.00	\$30,000.00
Lincoln County Power District	\$361,428.29	\$166,020.67	\$82,804.17
Alamo	\$232,525.84	\$166,020.67	\$41,505.17
Panaca	\$128,902.45	\$-	\$41,299.00
Mt. Wheeler Power	\$176,618.85	\$141,295.08	\$35,323.77
Ely	\$176,618.85	\$141,295.08	\$35,323.77
NDOT	\$788,986.67	<b>\$-</b>	<b>\$-</b>
Hawthorne	\$179,763.05	\$-	\$-
Tonopah	\$609,223.62	\$-	\$-
NV Energy	\$1,778,303.64	\$513,735.31	\$59,749.10
Austin	\$298,067.13	\$74,516.78	\$-
Cold Springs	\$288,331.00	\$72,082.75	\$-
Fallon	\$87,947.32	\$-	\$30,000.00
Goldfield	\$258,131.52	\$74,280.00	\$-
Indian Springs	\$148,745.50	\$118,996.40	\$29,749.10
Jean	\$148,745.50	\$37,186.38	\$-
Luning	\$244,746.54	\$65,939.00	\$-
Schurz	\$303,589.13	\$70,734.00	\$-
Overton Power District	\$274,971.02	\$219,976.82	\$54,994.20
Mesquite	\$131,379.54	\$105,103.63	\$26,275.91
Moapa	\$143,591.48	\$114,873.18	\$28,718.30
Raft River Rural Electric Cooperative	\$149,999.00	\$119,999.20	\$29,999.80
Jackpot	\$149,999.00	\$119,999.20	\$29,999.80
Valley Electric Association	\$433,289.74	\$300,000.00	\$15,000.00
Amargosa Valley	\$300,000.00	\$300,000.00	\$-
Beatty	\$133,289.74	\$-	\$15,000.00
Wells Rural Electric Company	\$243,899.82	\$243,899.82	<b>\$-</b>
West Wendover	\$243,899.82	\$243,899.82	\$-

Continued on next page.



## **APPENDIX: FUNDING BREAKDOWN**

ROW LABELS	TOTAL PROJECT COSTS	VW FUNDS	GOE REF
IN PROGRESS	\$2,367,038.00	\$1,395,730.50	\$172,640.00
Mt. Wheeler Power	\$563,200.00	\$450,560.00	\$112,640.00
Baker	\$315,200.00	\$252,160.00	\$63,040.00
Eureka	\$248,000.00	\$198,400.00	\$49,600.00
NV Energy	\$1,203,838.00	\$405,170.50	<b>\$-</b>
I-15 / US 93 Jct. (Speedway)	\$322,188.00	\$80,547.00	\$-
Silver Springs	\$242,702.00	\$60,675.50	\$-
Rye Patch	\$638,948.00	\$263,948.00	\$-
Wells Rural Electric Company	\$600,000.00	\$540,000.00	\$60,000.00
Carlin	\$300,000.00	\$240,000.00	\$60,000.00
Wells	\$300,000.00	\$300,000.00	\$-
POTENTIAL	\$1,022,792.00	\$362,792.00	\$-
NDOT	\$380,000.00	\$95,000.00	<b>\$-</b>
I-80 / US 95 Jct. (Trinity)	\$380,000.00	\$95,000.00	\$-
NV Energy	\$642,792.00	\$267,792.00	<b>\$-</b>
Middlegate	\$642,792.00	\$267,792.00	\$-
GRAND TOTAL	\$7,897,327.03	\$3,703,449.39	\$510,511.04

