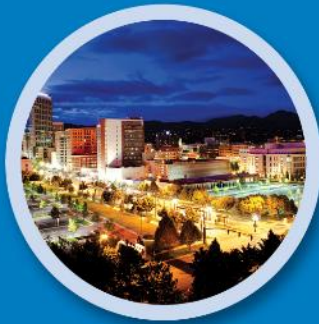


WestSmartEV-Community Partnership for Electric Vehicles and Infrastructure

James Campbell
November 6, 2019



Then there was light...



1893 Chicago World's Fair "White City" showed the potential of electrification

In 1881 Salt Lake City became the 5th city in the world to have central station service after London, New York, San Francisco, and Cleveland

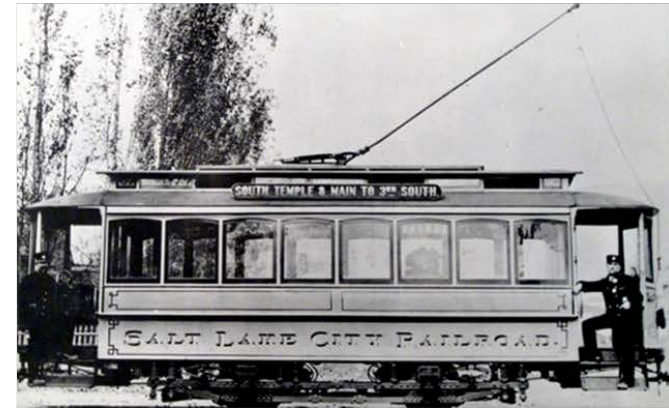
Transportation Crisis – Urban Pollution



At the turn of the century New York City had over 150,000 horses in the city producing roughly 3000 tons of waste per day



Waste from urban horses and the spread of flies contributed to health concerns associated with cholera and typhoid.



In 1889 Salt Lake City introduced its first electric street car 2 years before Chicago World's Fair

Electric Transportation



Utah Light & Traction Co. in 1915—one of the companies that became Rocky Mountain Power

WestSmart EV

Task 1 Electric Highways: 1,500 miles of electrified interstate with 65+ DCFC

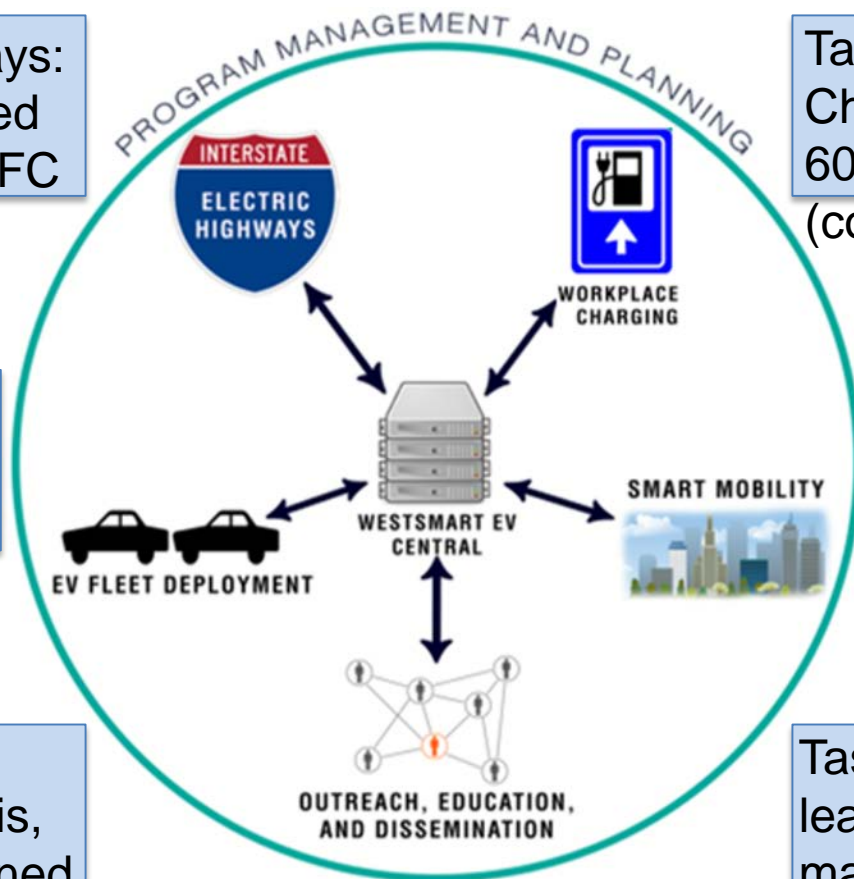
Task 2 Workplace Charging: Workshops and 600+ L2 at work locations (completed)

Task 3 EV Adoption Pilots: Incentives for 200+ EV purchases (completed)

Task 4 Smart Mobility: All electric solutions in urban areas

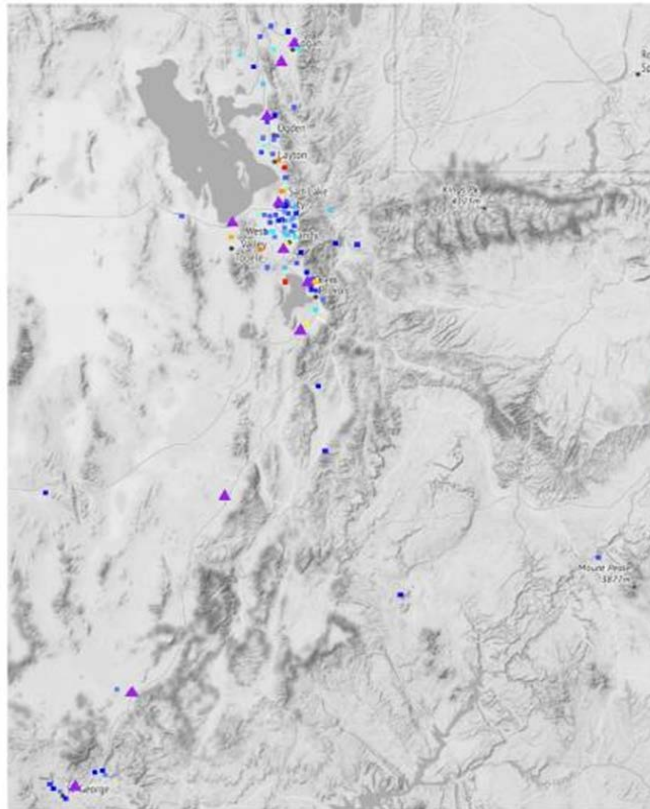
Task 5 WSEV Central: Data collection, analysis, modeling, lessons learned

Task 6 Outreach: Lessons learned dissemination, materials, workshops



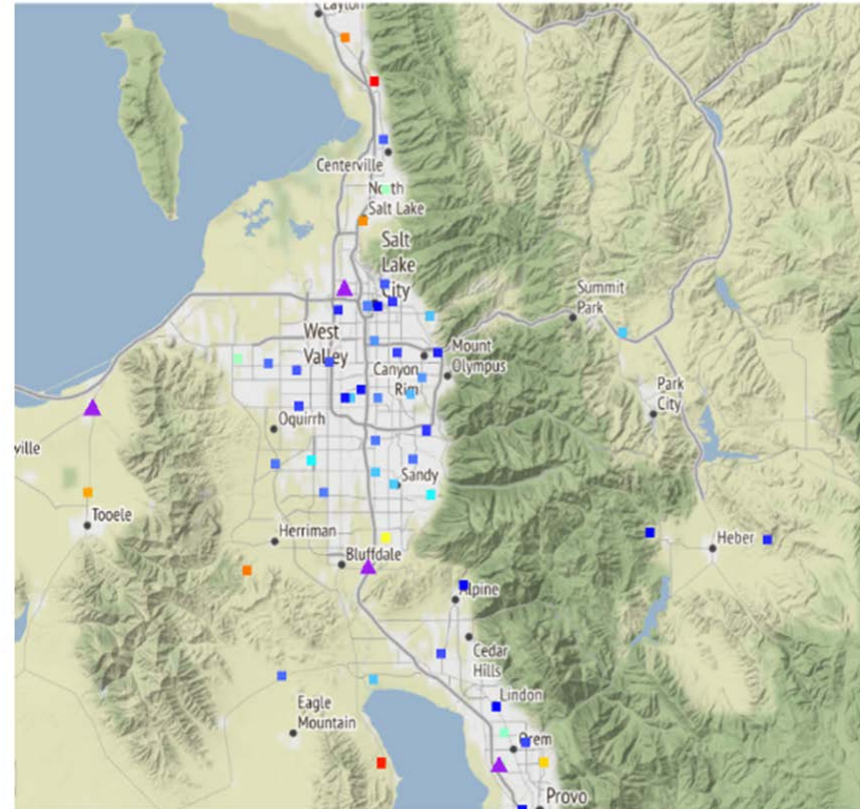
DCFC Usage by EV Owner Location

State-wide use



▲ — DCFC location
■ — User ZIP code

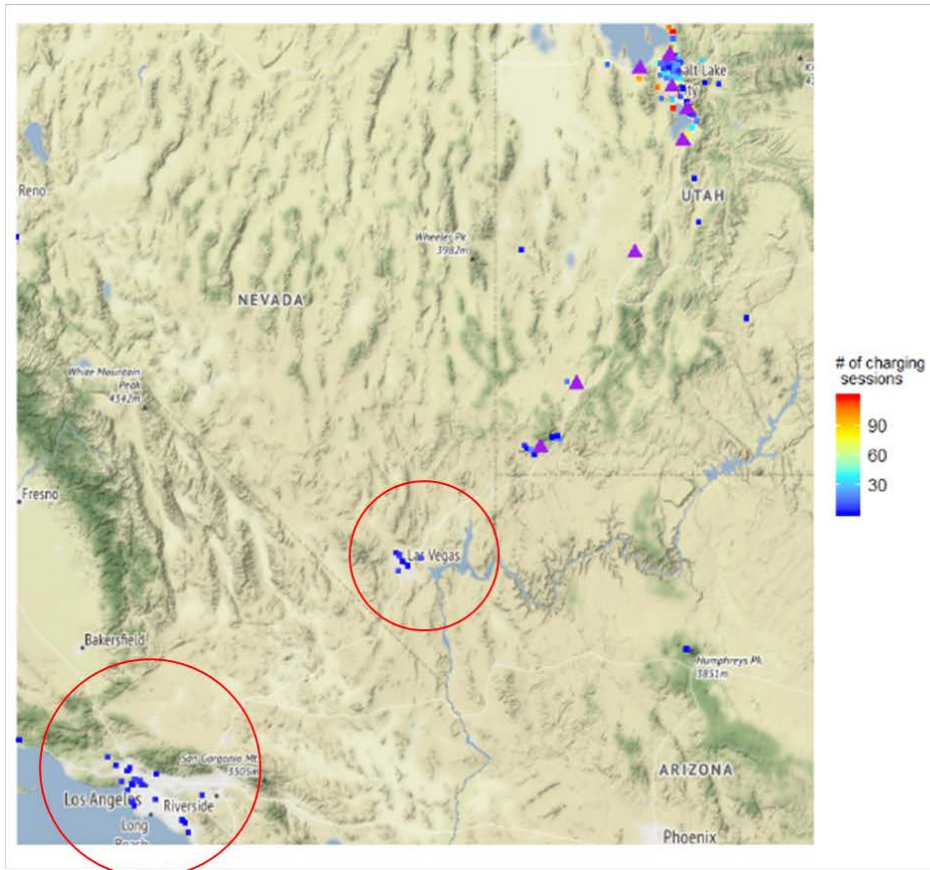
Urban use



Most frequent use comes from EV drivers who live outside/on outskirts of population centers. DCFC use by EV drivers in the city tends to be less frequent

DCFC Corridor Usage

Utah I-15 Corridor Overview



Analysis:

Based on user zip codes, DCFC deployed along I-15 by WSEV have **successfully enabled EV travels from Los Angeles through the State of Utah.**

A high number of drivers from Las Vegas and Los Angeles are using the corridor's DCFC.

Smart mobility services

Launched LYFT electric program

- Incentivize drivers to participate
- Train drivers to be EV ambassadors
- Provide access to multiple strategically located fast charging stations
- On-site Fast Chargers
- Download App that tracks charging location and characteristics



Photo: RMP

Launched electric car share program with Envoy There group

- Car share for residents includes short and long range EVs
- Includes high-end, student, low income housing



Photo: Giv Development

Smart mobility e-bus

Six electric buses

- Park City bus route
- Compiled data of both charger and bus performance for 2 years

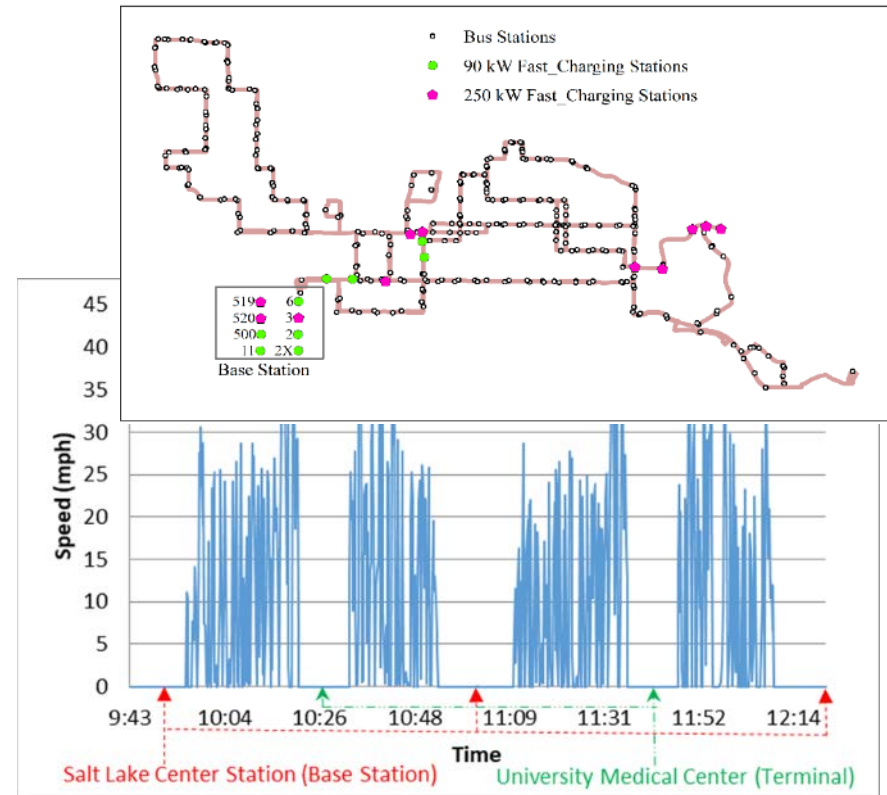
Y2 rollout planning: Salt Lake City

- Collected real world drive cycles
- Developed electric bus system planning tool



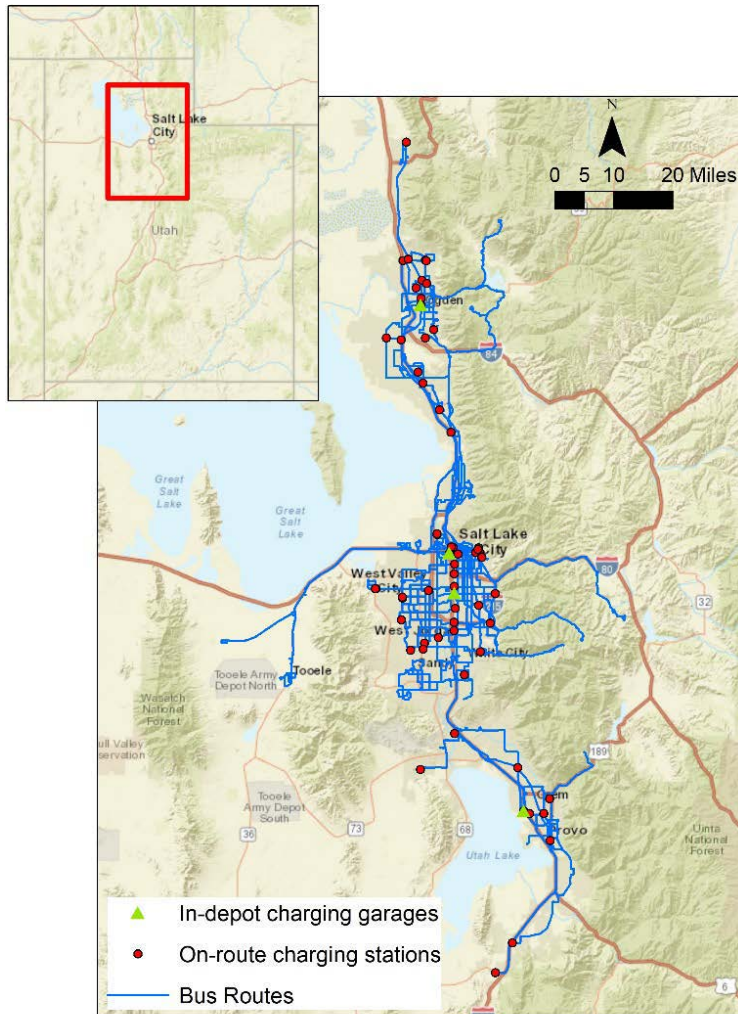
Photo: Park City Transit

Most traveled EV route in the US
18.3 MPGe (Diesel is 4 MPG)



What's Next

Multi-Modal Transit Hubs



- Integrate light-rail, electric buses, delivery trucks, ride hailing, and public charging infrastructure
- Develop power balance and demand response control system to reduce initial infrastructure costs and demand charges
- Expand to 50 locations