NEVADA TRANSPORTATION ELECTRIFICATION OVERVIEW

A review of national EV statistics and state-specific travel patterns and transportation electrification metrics

Atlas Public Policy
December 2020

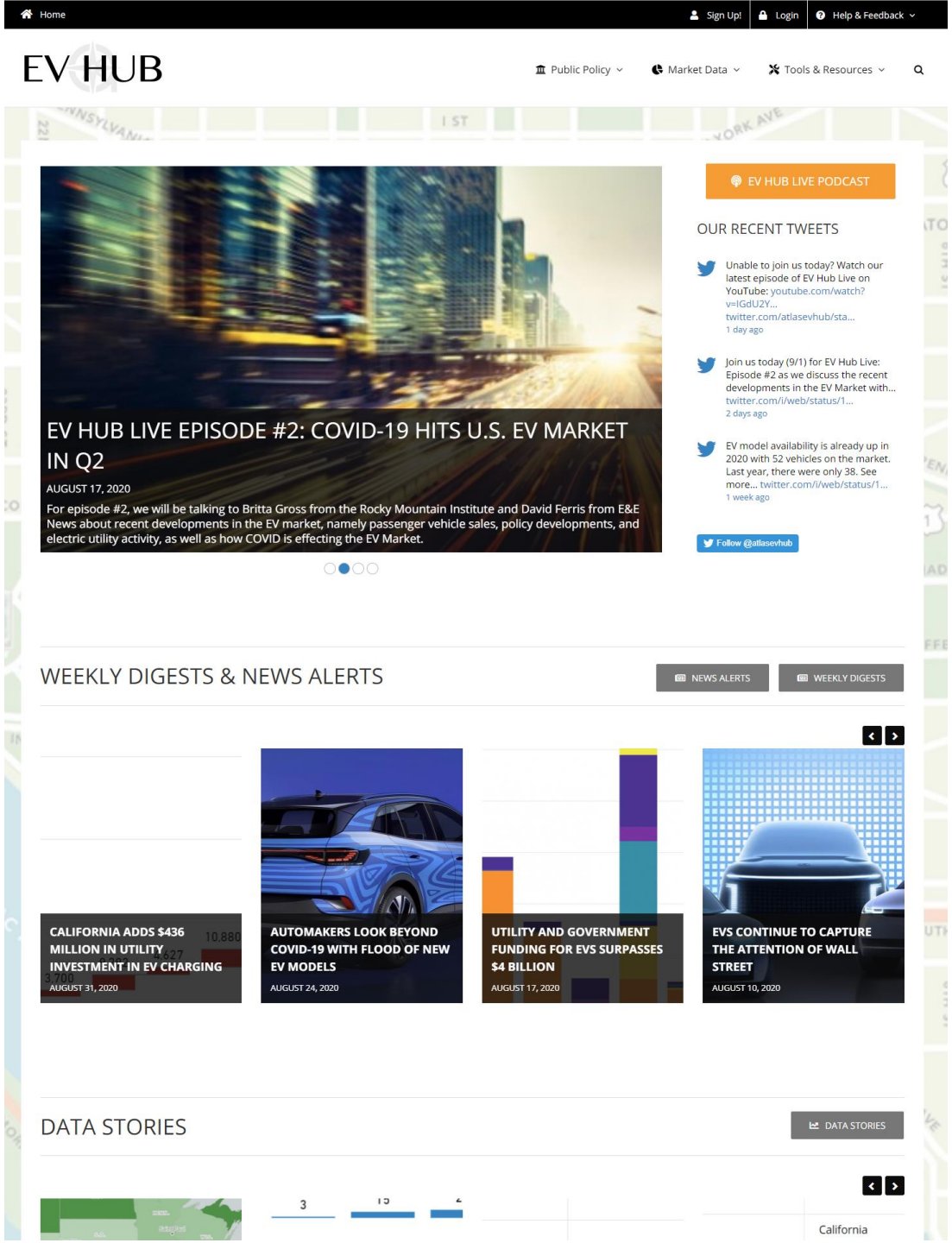
ATLAS PUBLIC POLICY

ABOUT ATLAS PUBLIC POLICY

- DC-based policy tech firm started in 2015
- We equip businesses and policymakers to make strategic, informed decisions through the greater use of technology that aggregates publicly available information

Our Key Focus Areas

- **Access**: Collect and disseminate publicly available information.
- **Interpret**: Create technology to spur insights and conduct data-driven analyses.
- **Empower**: Strengthen policymakers, businesses, and non-profits' ability to meet emerging challenges and identify and seize opportunities.



ABOUT THE ATLAS EV HUB

- The EV Hub gives stakeholders from across the EV industry quick access to key data and information on the market, policies and regulations, and activities by the EV community
- A one-stop shop for businesses, policy professionals, and the advocacy community to learn more about what's going on in the EV market
- A comprehensive platform for the EV community: www.atlasevhub.com

Free access for public agencies and Clean Cities Coordinators!

DATA SOURCES

- All national data is collected by Atlas
- State-specific metrics are either statewide or from 1 urban region in Nevada (Core Based Statistical Area):
  - Las Vegas (Las Vegas-Henderson-Paradise, NV)
- Caveats
  - National Household Travel Survey (NHTS) data is a survey (not population-level data)

Data Sources by Category

National Figures

- Atlas EV Hub Dashboards

State Emissions

- U.S. EPA/EIA
- Union of Concerned Scientists

State Travel Behavior

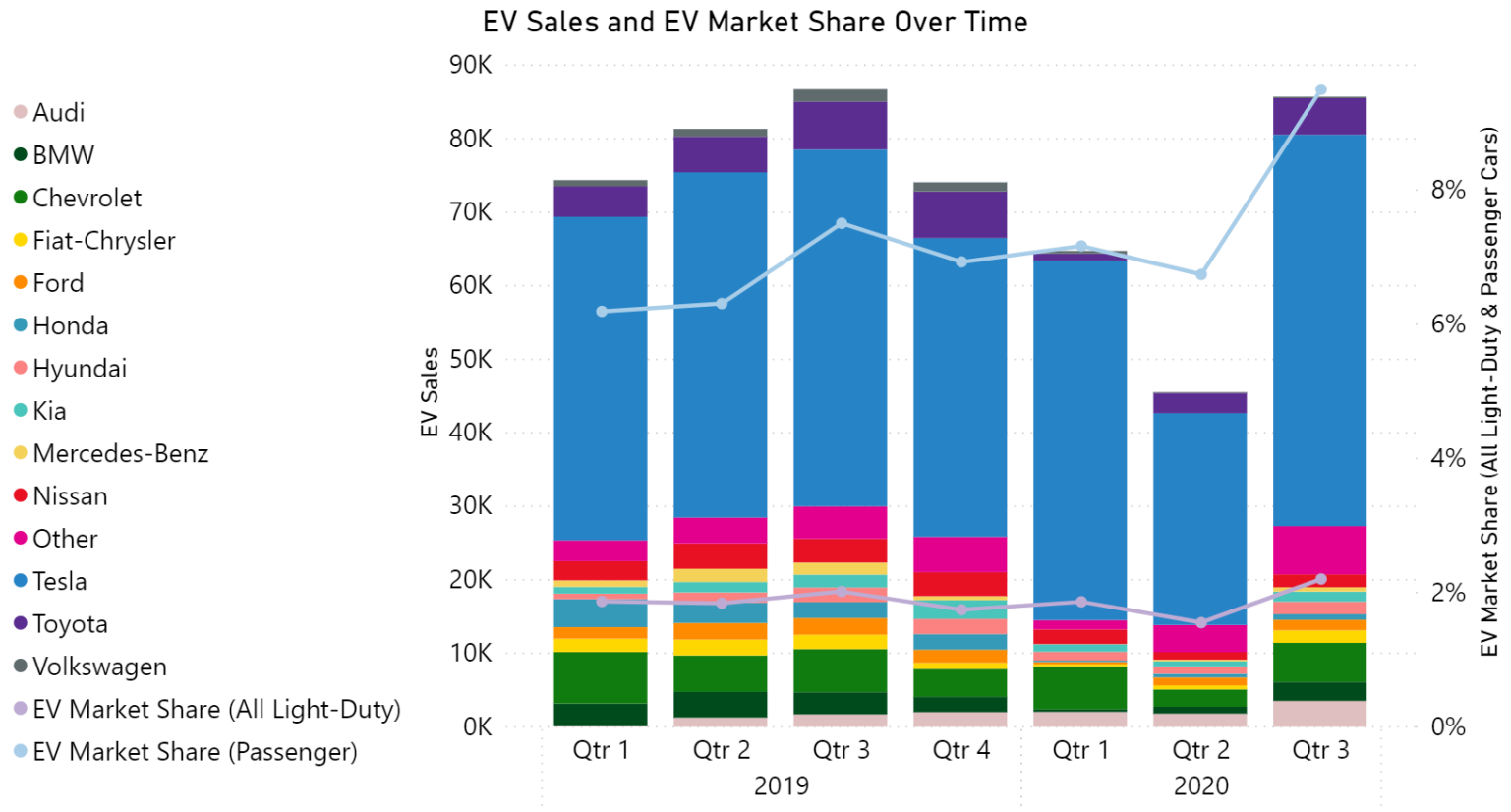
- Federal Highway Administration
- 2017 National Household Travel Survey (NHTS)

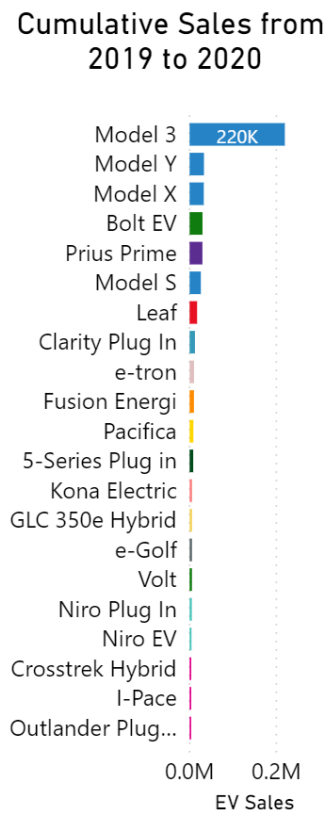
State Mass Transit

- National Transit Database

NATIONAL OVERVIEW

Review of EV sales, government funding, and market developments



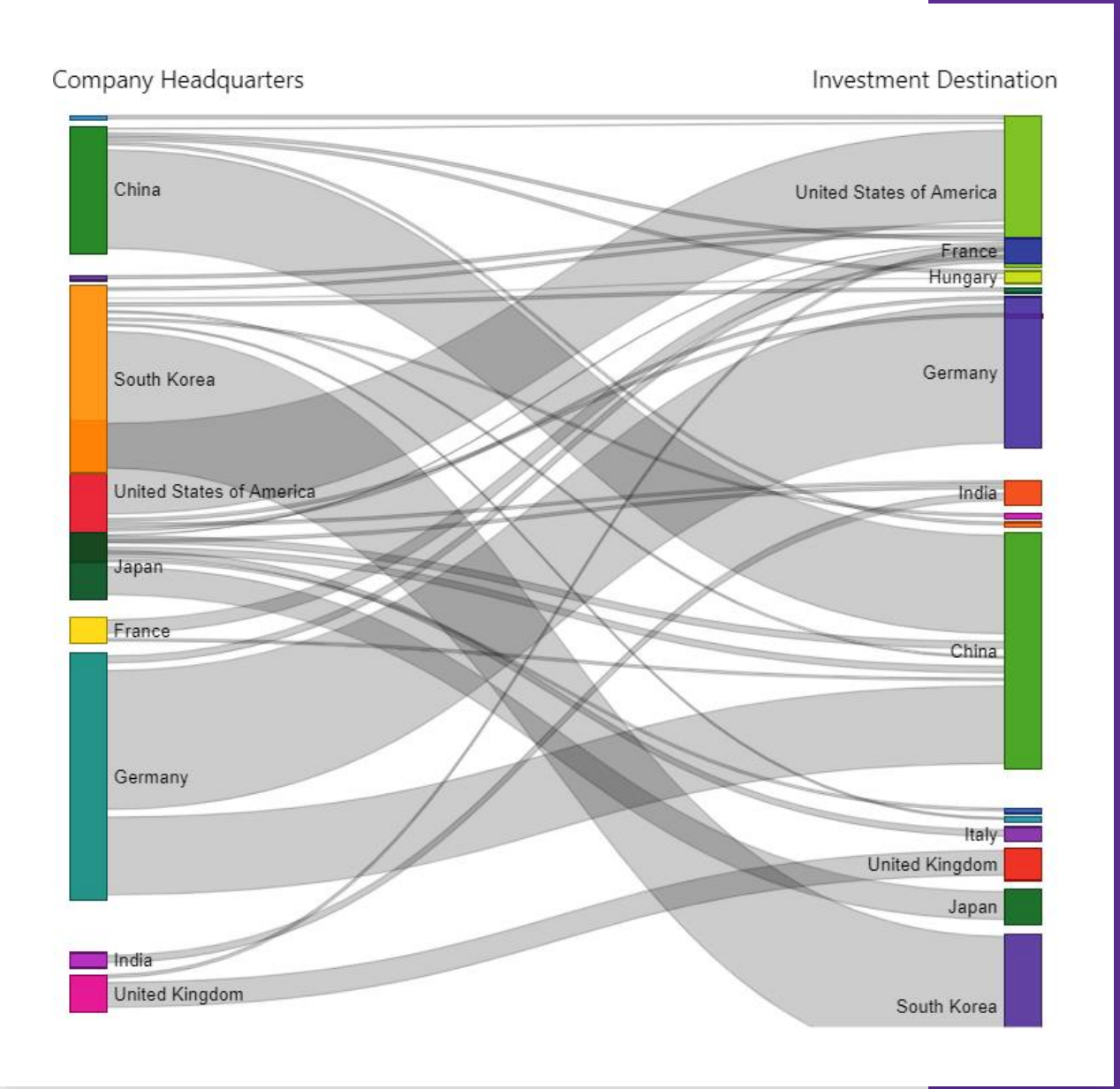


NATIONAL EV SALES DOWN 19% THROUGH SEPTEMBER COMPARED TO 2019

- The auto market overall is down 17 percent through September
- U.S. passenger EV sales rallied in Q3, only down 2% compared to 2019
- EV market holding steady around 2% of all light-duty vehicle sales and > 5% of passenger car sales
- Tesla accounts for 60% of sales since 2018

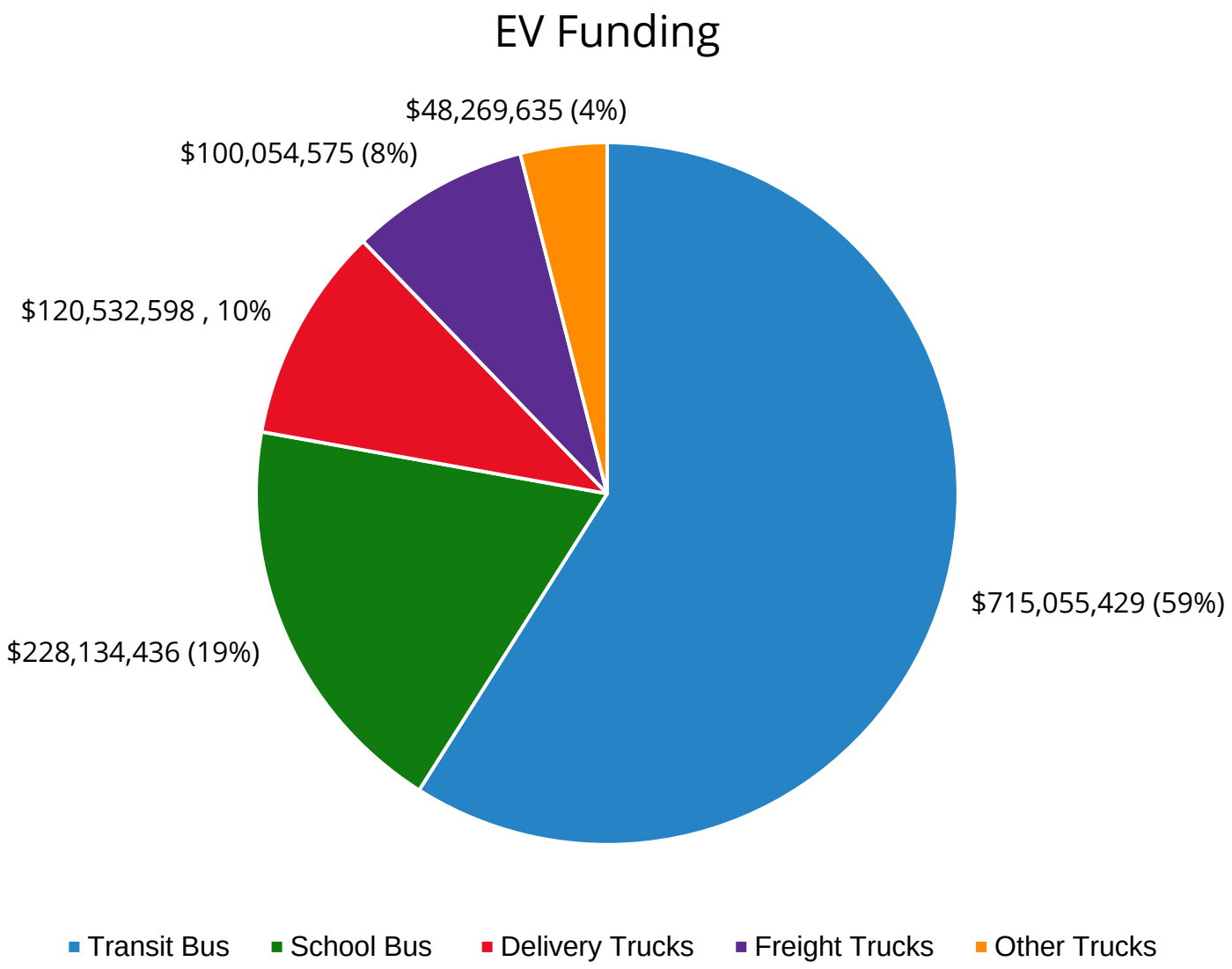
$14 BILLION IN NEW PRIVATE INVESTMENT ANNOUNCED BETWEEN JULY AND OCTOBER

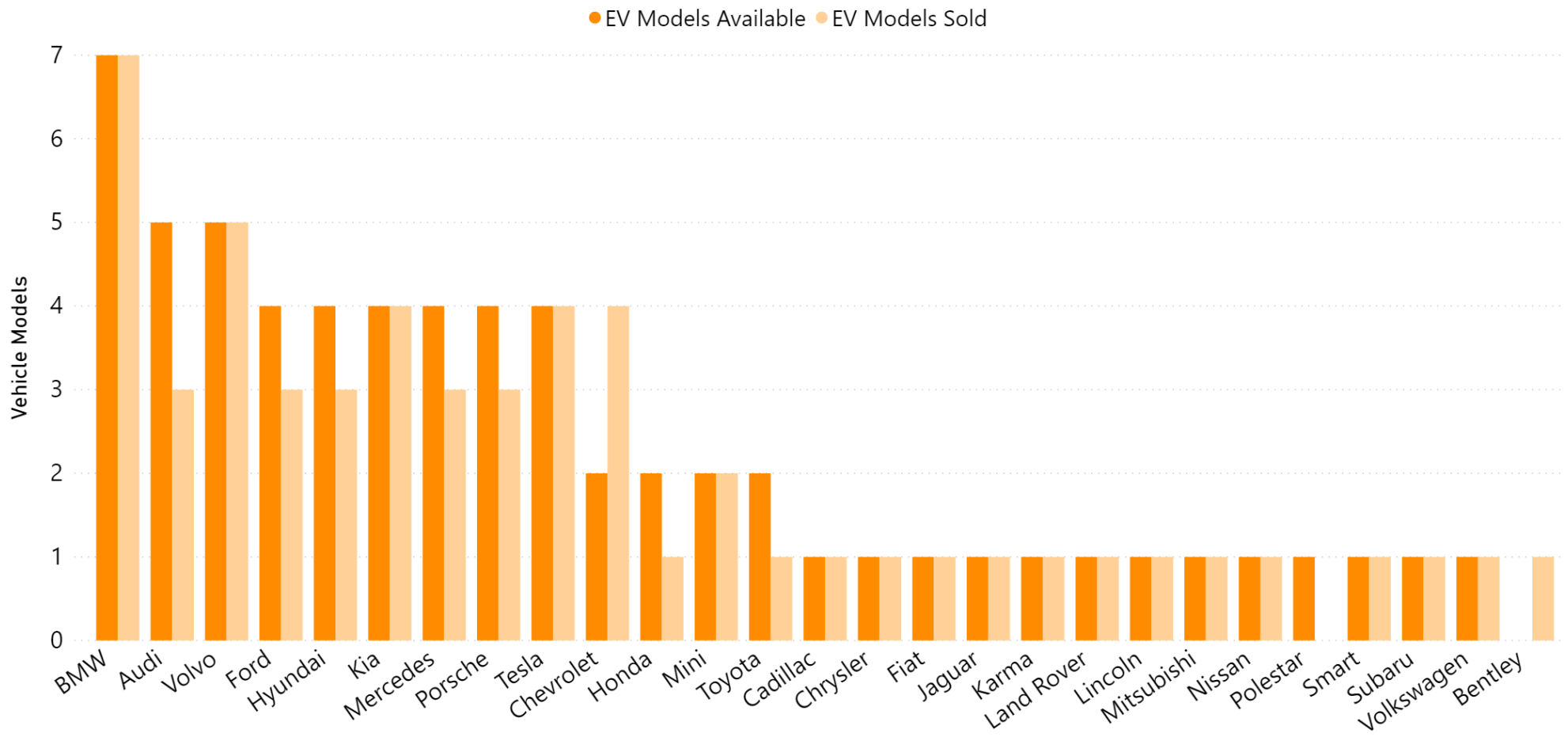
- Automakers and other stakeholders continue to rollout EV investment as sales recover
- $443 billion in global investment
  - $71 billion destined for U.S.
- $14 billion in new investment between July and October
- GM leads new investment push with $2 billion commitment in October



$1.25B IN ELECTRIC BUS AND TRUCK FUNDING

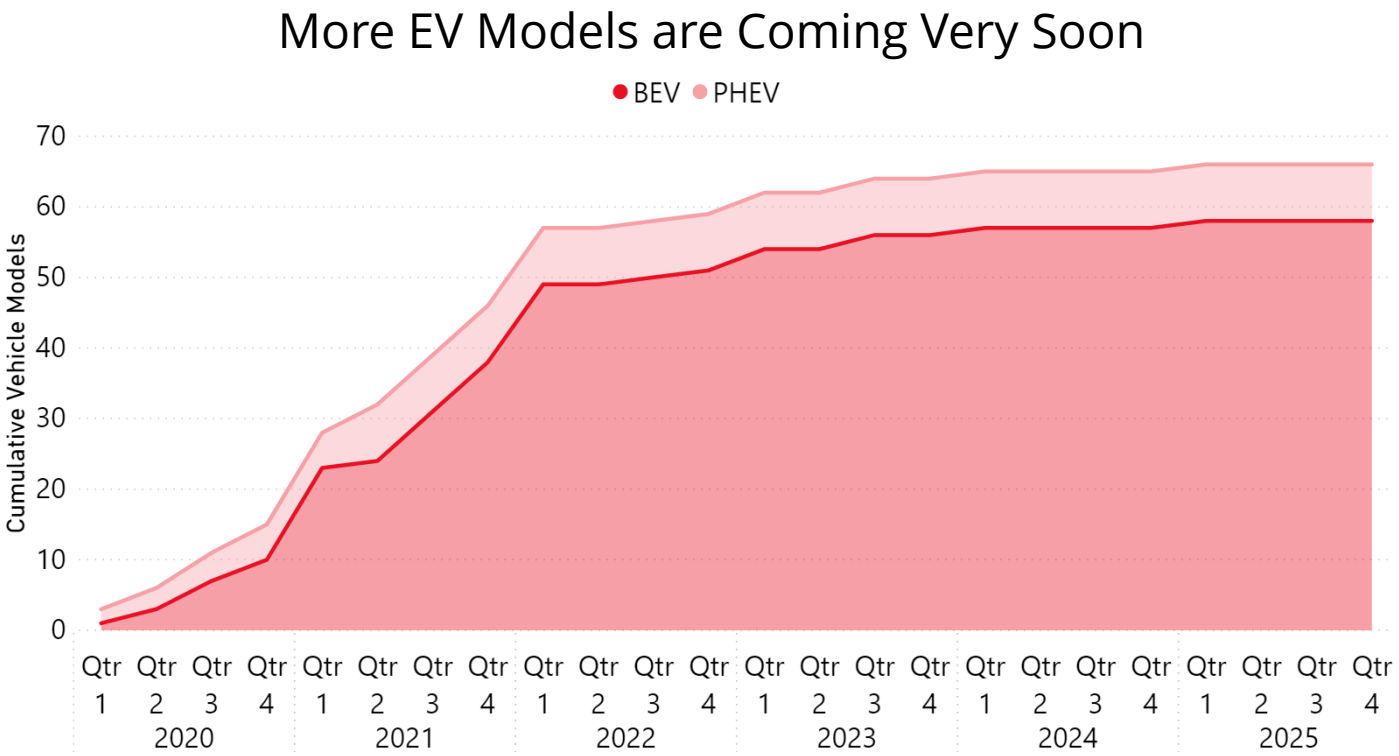
- Government programs have provided more than $1.25 billion for electric trucks and buses through October 2020
- Almost 60% going to electric transit buses
- Electric trucks and school buses each claim roughly 20%
- 20% of funding awarded through the VW Settlement





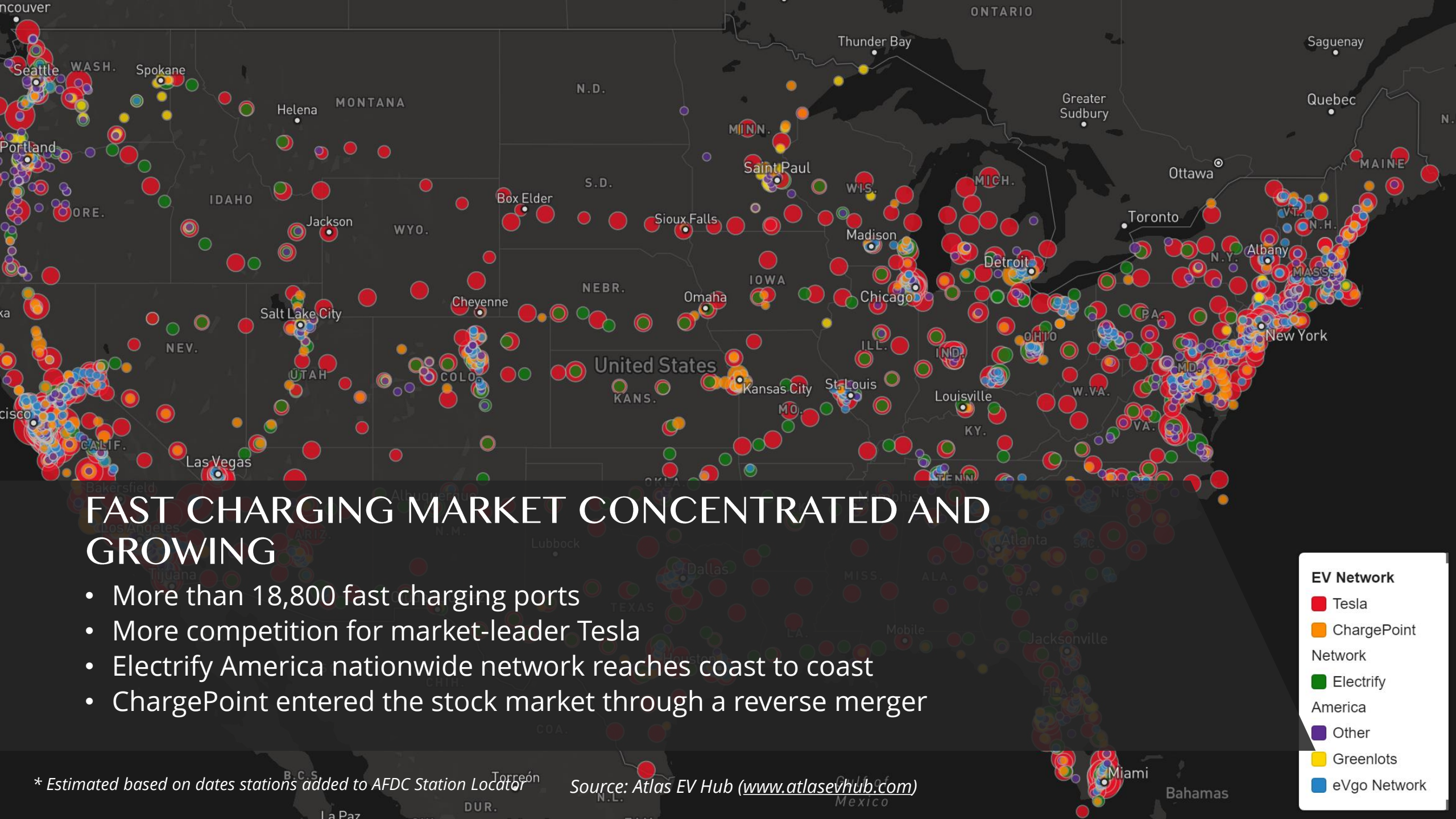
NOW 52 EV MODELS OFFERED IN THE U.S.

- More than 14 new EVs introduced since July 2019
- Luxury brands like BMW, Volvo and Porsche claim the most EV models
- Ford, GM, and Fiat-Chrysler only claim 5 out of 52 EVs across all brands



MORE THAN 30 NEW MODELS EXPECTED IN 2021

- Some new EVs have been delayed by COVID-19
- Rivian and Tesla electric pickups expected in second half of 2021
- Volkswagen ID4 crossover in production in Europe, will be made in U.S. in 2022



FAST CHARGING MARKET CONCENTRATED AND GROWING

- More than 18,800 fast charging ports
- More competition for market-leader Tesla
- Electrify America nationwide network reaches coast to coast
- ChargePoint entered the stock market through a reverse merger

EV Network

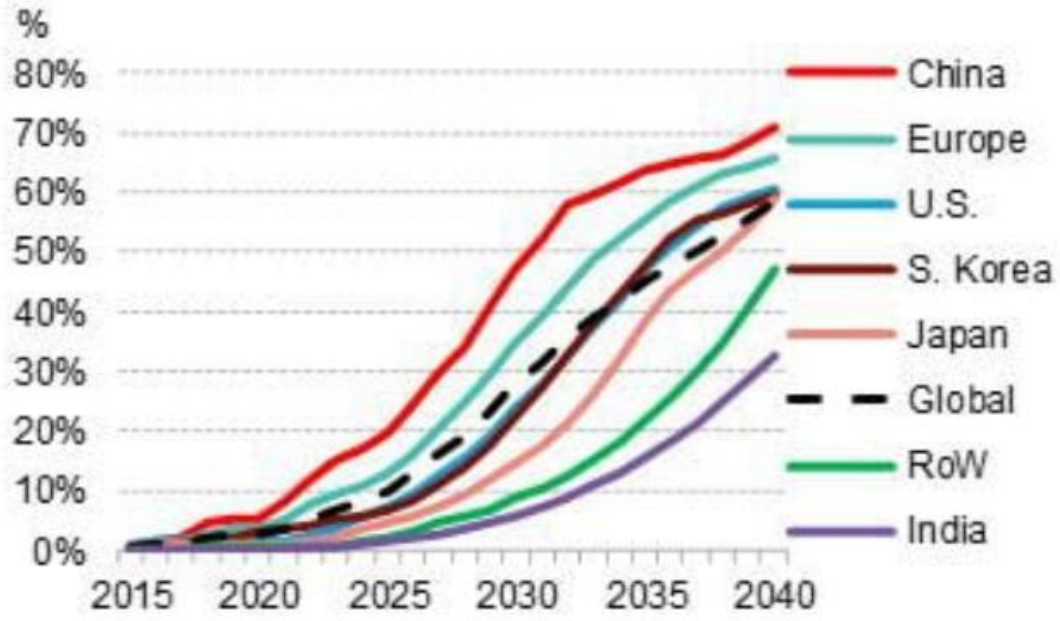
- Tesla
- ChargePoint Network
- Electrify America
- Other
- Greenlots
- eVgo Network

** Estimated based on dates stations added to AFDC Station Locator*

Source: Atlas EV Hub (www.atlasevhub.com)

EV SHARE OF U.S PASSENGER VEHICLE SALES PROJECTED TO GROW 20X BY 2040

Figure 2: Global long-term EV share of new passenger vehicle sales by region



- Bloomberg New Energy Finance (BNEF) projects EVs to reach 60% of new passenger vehicles sales in the U.S. by 2040.
- EVs only expected to account for 4% of new vehicles sales in 2023
- Electric buses and trucks to make up 64% and 15% of global fleets by 2040

Source: BNEF

NEVADA OVERVIEW

Analysis of emissions and EV deployment and funding

NEVADA HIGHLIGHTS

NEVADA EV STATS THROUGH OCTOBER 2020

EV Sales (through September 2020)

- State Total: 11,194 (23rd in nation)
- Change 2019-2020 (Jan - September): +1%
- EVs per 1k People: 3.83 (14th in nation)
- Models Offered: 43 out of 52

EV Charging Deployment

- State Level 2 Total: 691 ports
- State DCFC Total: 303 ports (20th in nation)
- DCFC per 1k people: 0.10 (6th in nation)

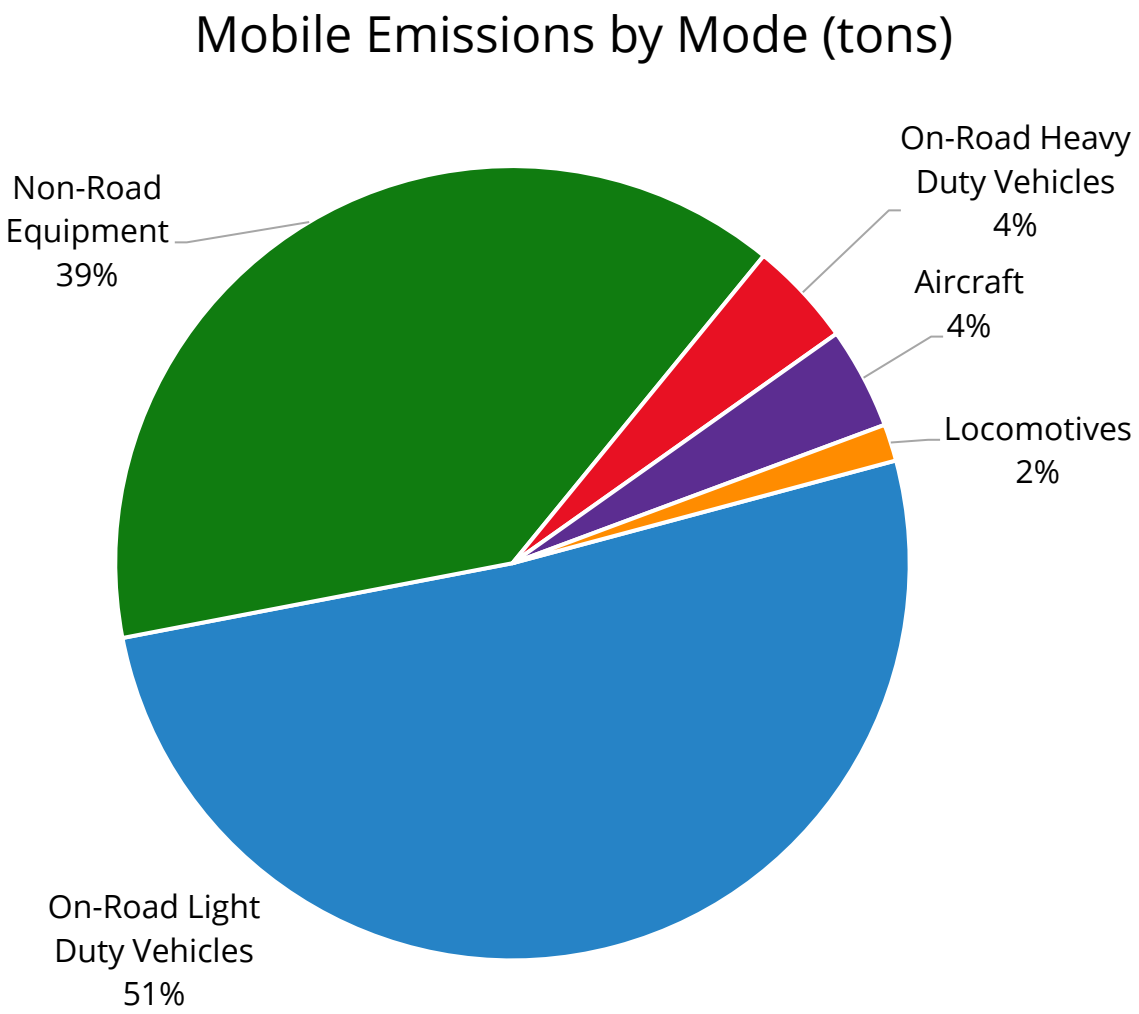
Approved Utility Investment

- State Approved Total: $4.4 million
- Pending Investment: $0 million

Government Funding for EVs

- State Total since 2018: $10 million
- % of Total Awarded in 2020: 0%

TRANSPORTATION ACCOUNTS FOR 42.5% OF NEVADA'S CO_2 EMISSIONS

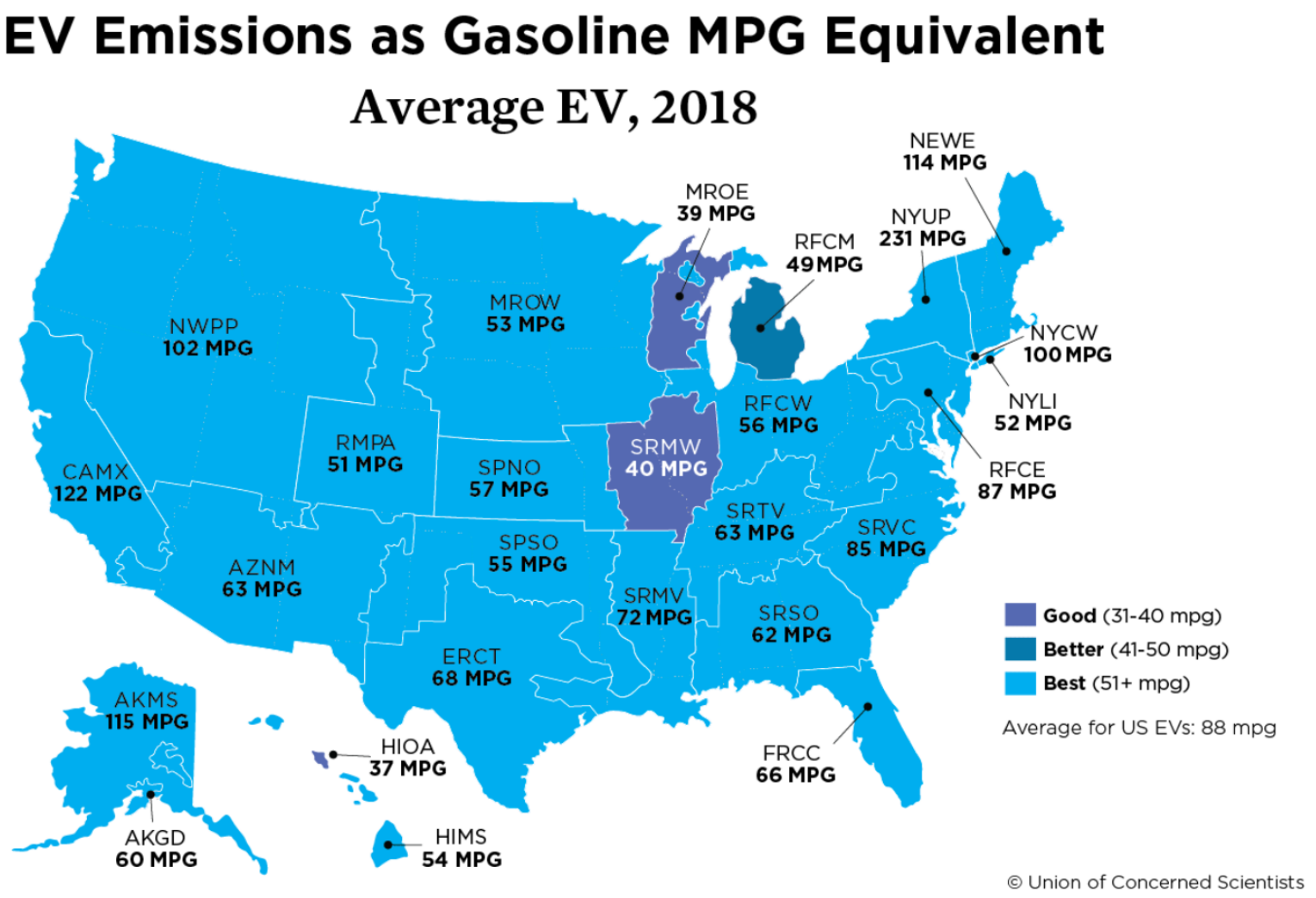


- Nevada ranks 39th of 50 states in total CO_2 emissions and 40th in energy consumption for all sectors per capita
- Light-duty vehicles account for 51% of the state's mobile emissions of criteria air pollutants

Sources: EIA State Carbon Dioxide Emissions Data, EIA State Profiles

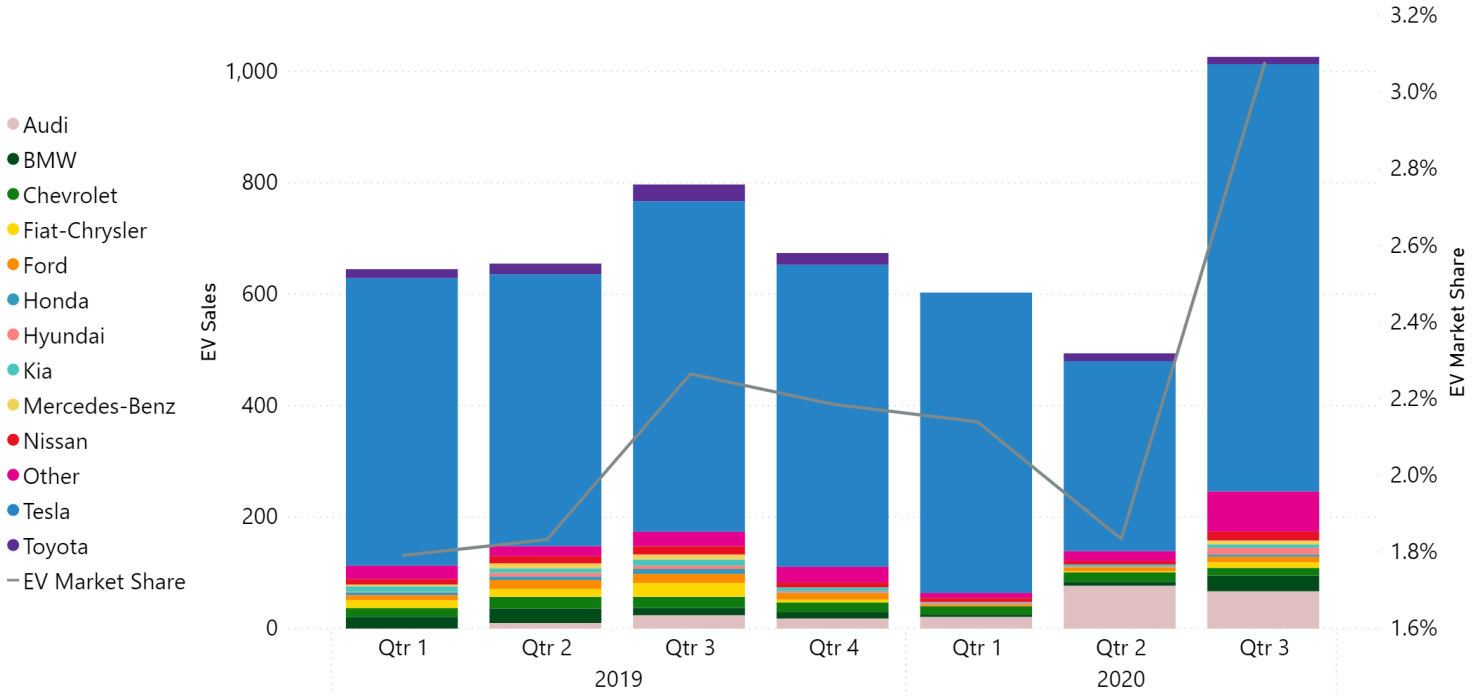
DRIVING EV IN NEVADA EQUAL TO 102 MPG GAS VEHICLE

- The state falls in NWPP grid region
- Driving an EV charged in NWPP region produces emissions comparable to 102-mpg vehicle
- This puts the state above the national average of 88 mpg



Source: Union of Concerned Scientists

ANNUAL EV SALES GROW BY 2.6X BETWEEN 2017 AND 2019



- 11k EVs sold in Nevada through September 2020
  - 23rd out of 50 states
- 23.8 EVs per 1,000 people
  - 14th out of 50 states
- Sales up 1% between January and September compared to 2019
- Most Popular EVs since 2019:
  - Tesla Model 3 (2,461)
  - Tesla Model X (521)
  - Tesla Model Y (417)

NEVADA EV FUNDING

$10M awarded for EVs and EV charging in Nevada through October 2020

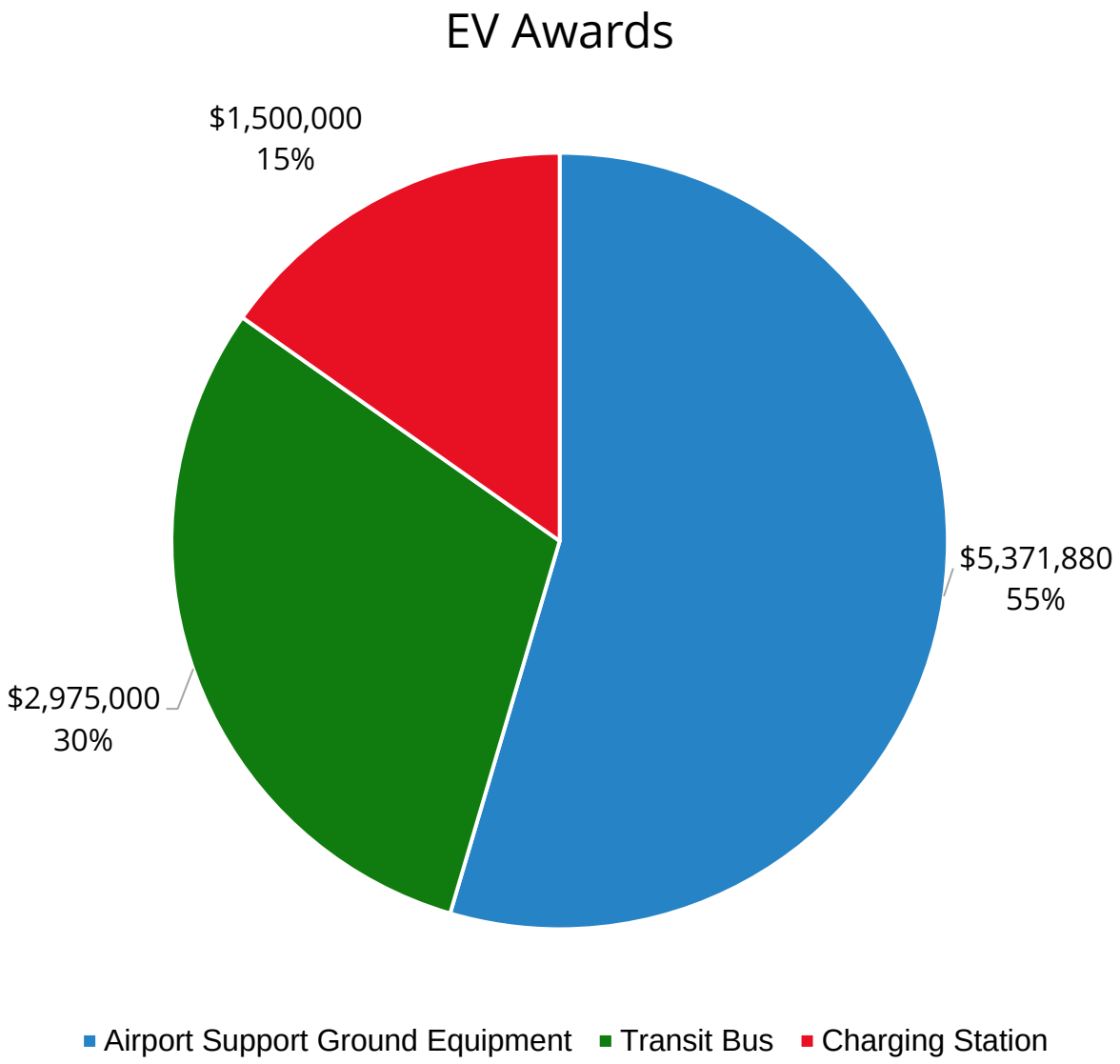
$5.4M from VW Settlement

EVs account for 100% of awards made through VW Settlement

73% of state's VW Settlement allocation unspent

School bus funding available from NV Energy

Grants for buses open



NEVADA MOVES TO ADOPT ZEV PROGRAM

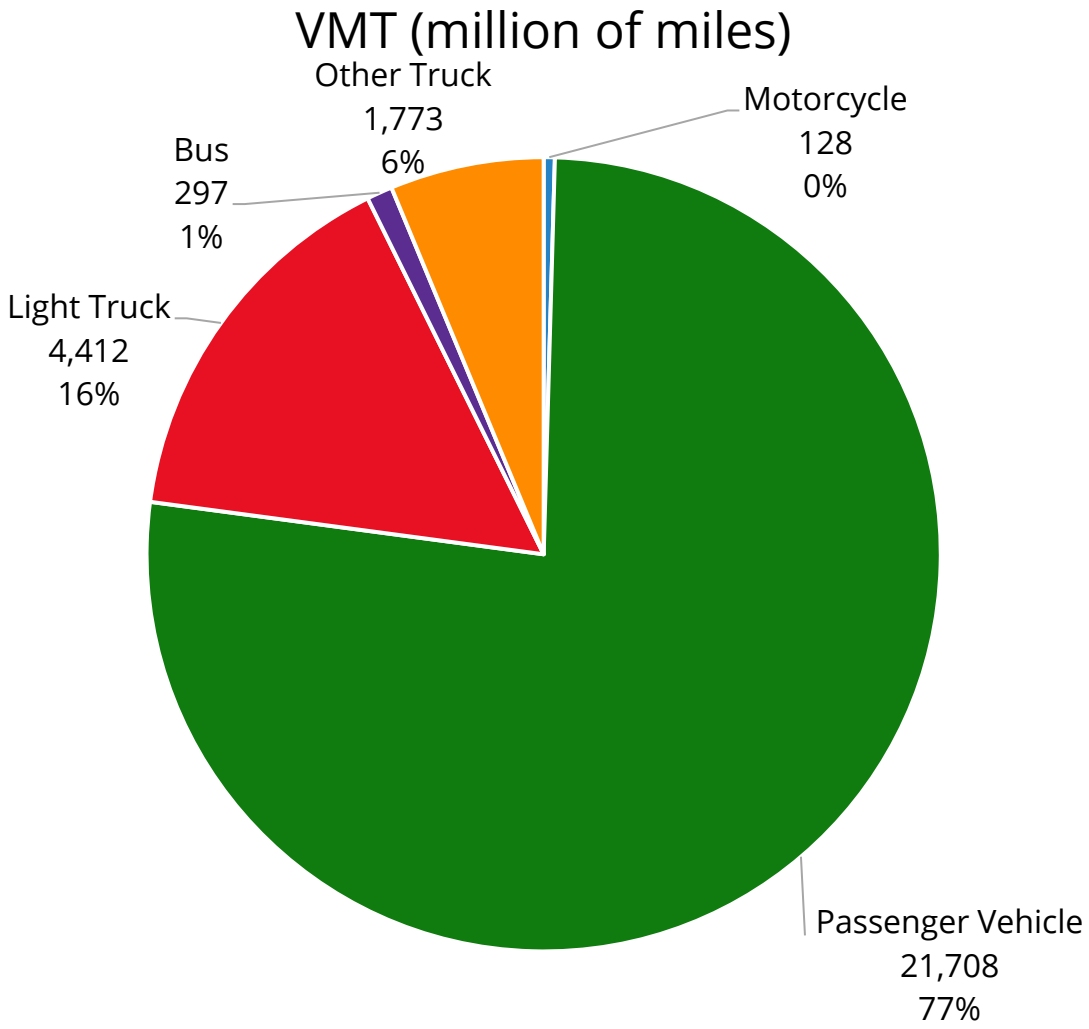
- In June 2020, Nevada Governor Steve Sisolak announced plans to join the California ZEV program
  - State would join 12 others requiring automakers to offer a certain percentage of EVs for sale in the state
- Nevada is already a part of REV West Plan
  - Plan establishes interstate coordination between AZ, ID, CO, MT, NM, UT, and WY on corridor charging infrastructure
- Nevada Electric Highway agreement between NV Energy and Office of Energy
  - Target to install DC fast charging along I-95 connecting Reno and Las Vegas throughout 2020

NEVADA TRAVEL PATTERNS

A review of vehicle miles traveled (VMT) statewide and travel choices in Las Vegas using data from 2017 National Household Travel Survey

PASSENGER VEHICLES ACCOUNT FOR 77% OF VMT IN NEVADA

- Trucks, including light-duty, account for 22% of VMT in state
- Drivers in Las Vegas reported an average 9,545 annual VMT
  - Lower than average of 11,620 annual VMT across 52 most populous U.S. metros*

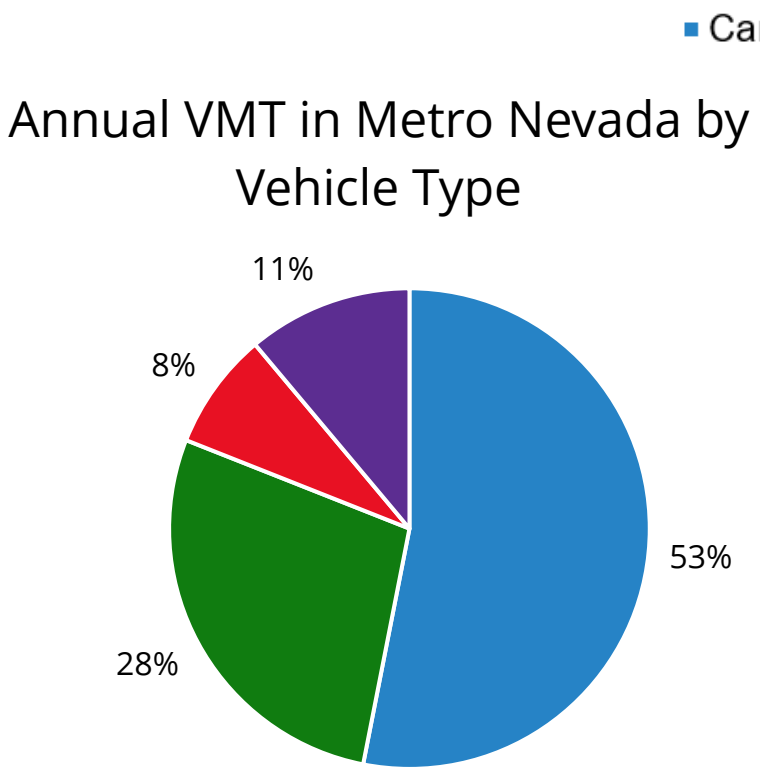


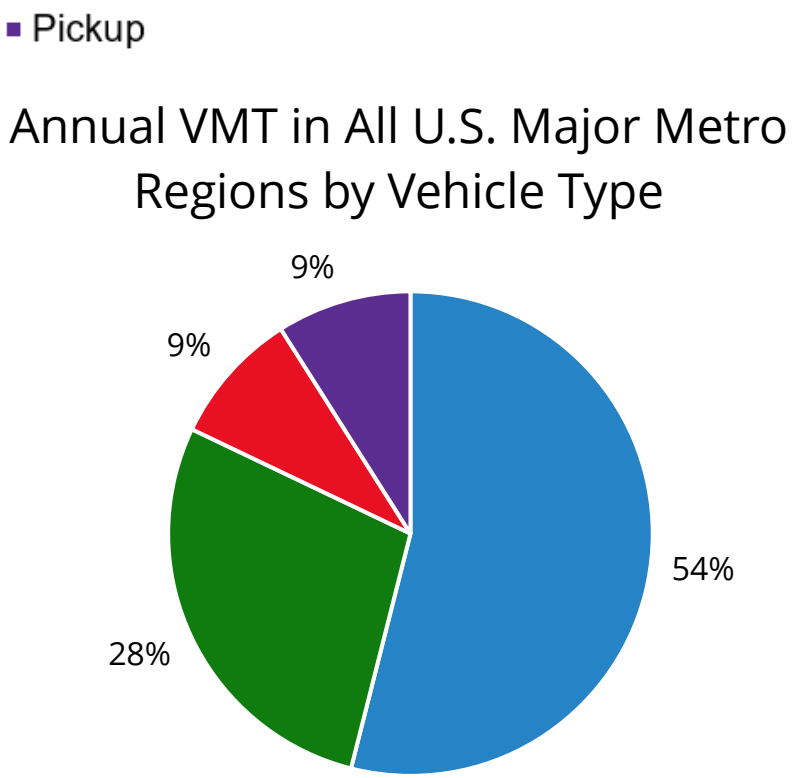
** Combined Statistical Areas with a population of more than 1 million*

Source: https://www.fhwa.dot.gov/policyinformation/statistics/2018/vm4.cfm

METRO NEVADA PERSONAL VEHICLE TRAVEL HIGHER THAN NATIONAL TRENDS

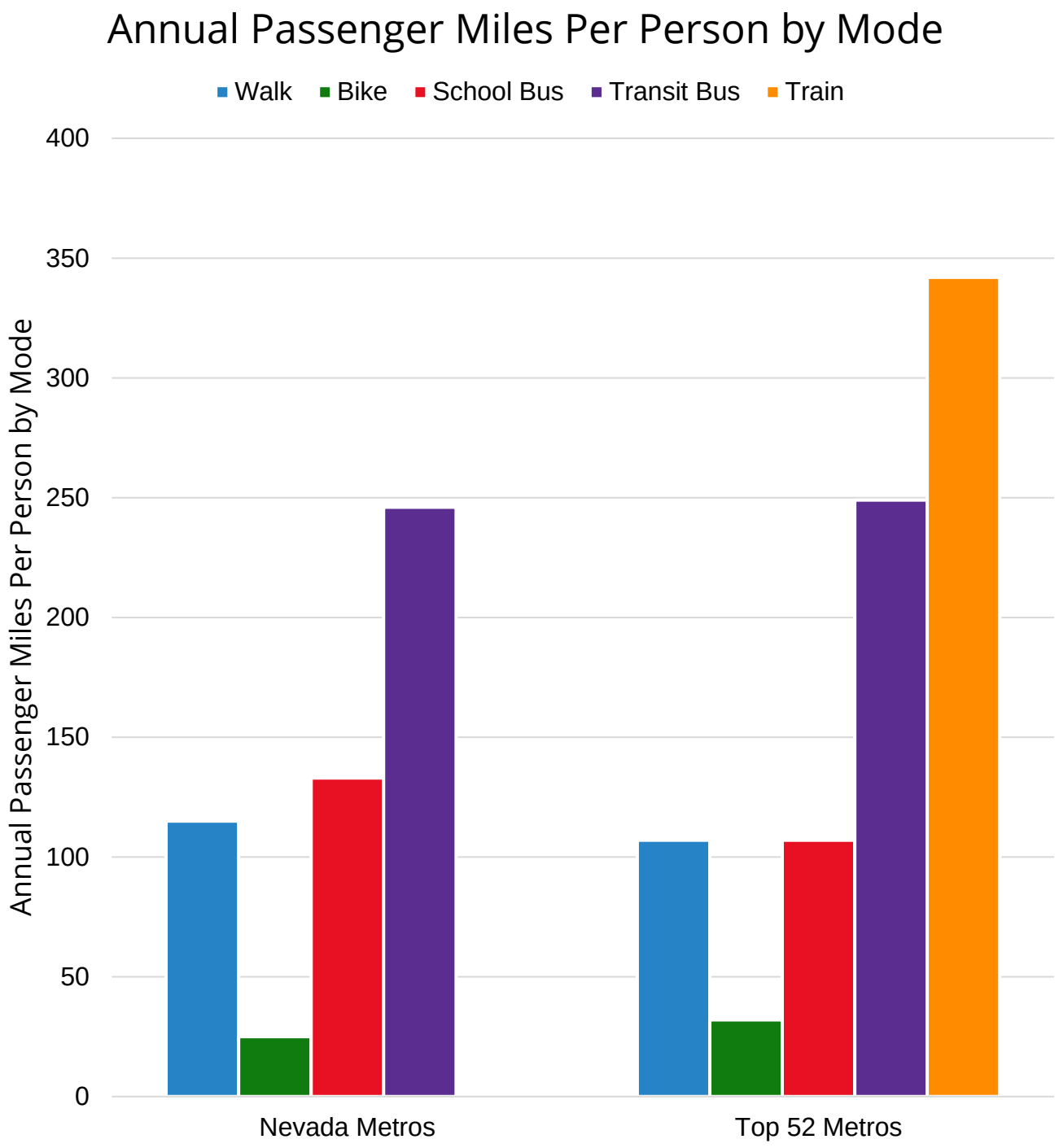
- In urban Nevada, personal vehicles made up 92% of reported annual VMT
  - Average across 52 major U.S. metro areas* was 90%
- Urban drivers in Las Vegas drive more pickups compared to average across major 52 U.S. metro areas





** Combined Statistical Areas with a population of more than 1 million*

Source: https://nhts.ornl.gov/



NEVADA METRO BELOW NATIONAL AVERAGE PUBLIC TRANSIT VMT

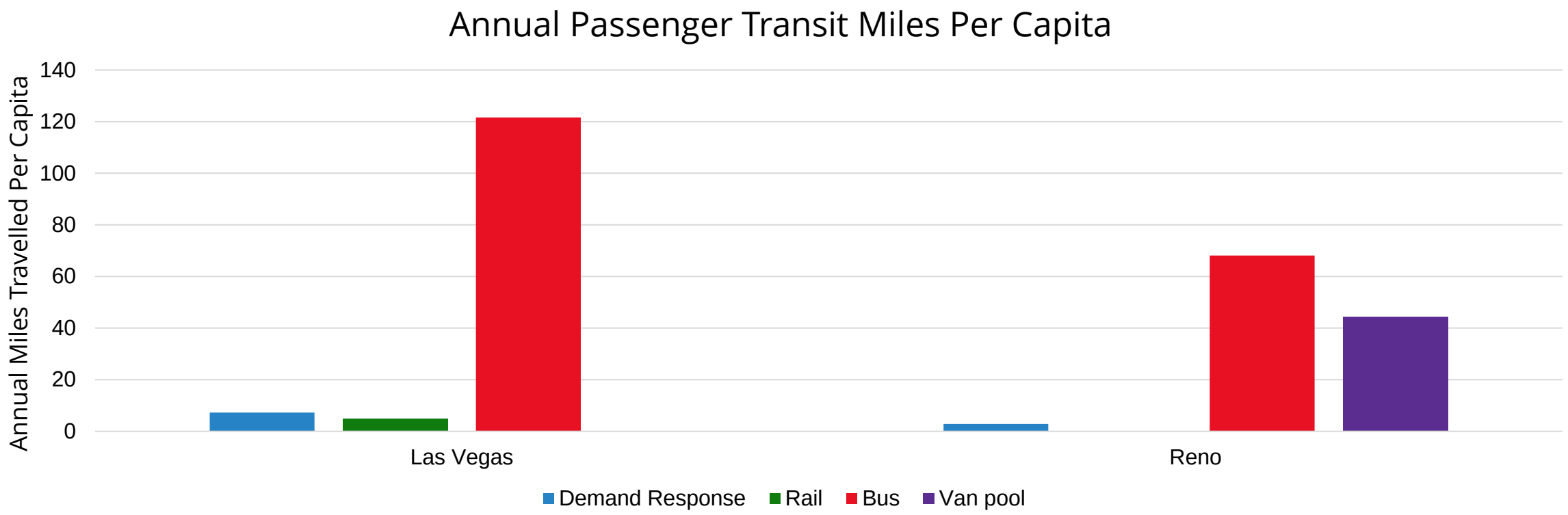
- Transit buses are 2nd most popular travel mode after passenger vehicles in urban Nevada
- No reported train in metro Nevada
- Bus travel in Nevada roughly equals national average

PUBLIC TRANSIT USE

A review of transit patterns in major urban areas using data from National Transit Database

TRANSIT USE HIGHER IN LAS VEGAS

- Per person transit bus usage double in las Vegas compared to Reno
- Only metro rail services in Nevada are in Las Vegas
- Vanpool is a popular mode of transit travel in Reno

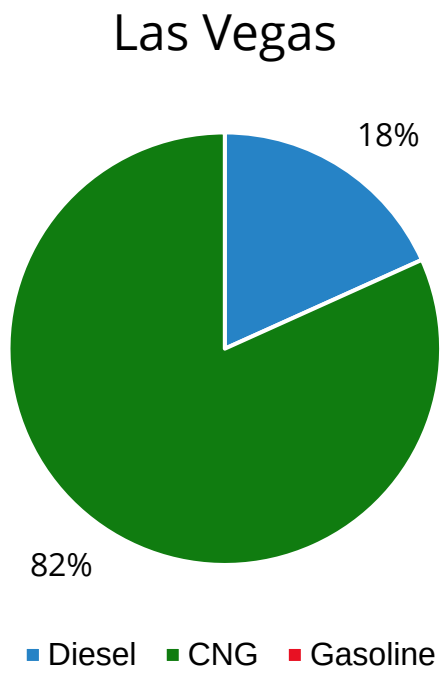


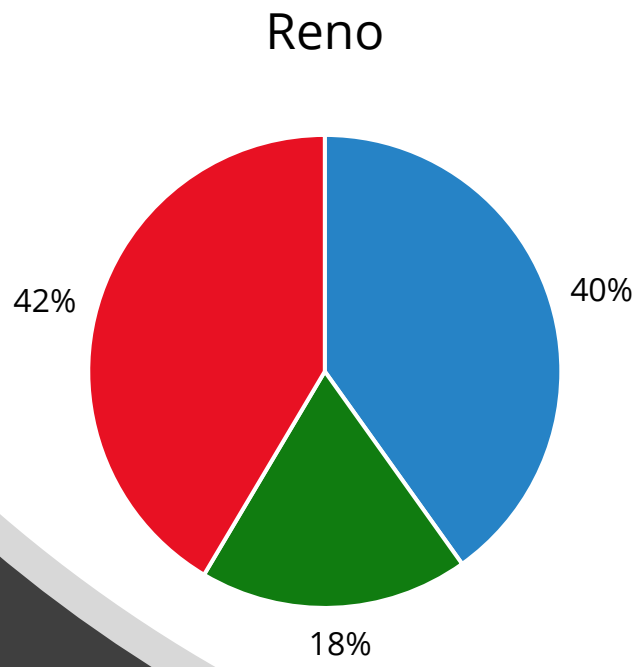
Source: https://www.transit.dot.gov/ntd/transit-agency-profiles

FEW ELECTRIC TRANSIT BUSES REPORTED IN NEVADA

- Transit agencies awarded $3 million for electric transit bus procurement since 2018
- Neither Las Vegas nor Reno reported passenger miles on battery electric transit in 2018
- Reno reports 21 electric buses in their fleet as of 2020
- Las Vegas has no reported electric transit buses
- CNG buses dominate the Las Vegas fleet

2018 Passenger Miles by Vehicle Fuel Type

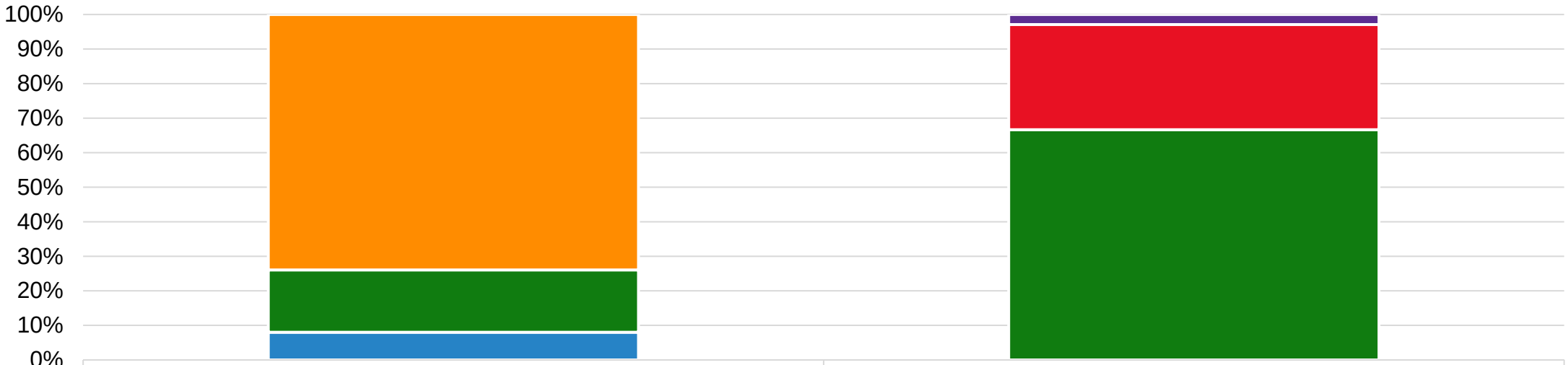




Source: https://www.transit.dot.gov/ntd/data-product/2018-fuel-and-energy

RENO HAS THE ONLY ELECTRIC TRANSIT BUSES IN NEVADA

- CNG busses account for more than 70% of the Las Vegas fleet
- Reno has 21 electric transit buses while Vegas has none.
- Biodiesel transit buses make up more than 60% of the Reno fleet



	Las Vegas (2020)	Reno (2020)
CNG	369	0
Diesel Hybrid	0	2
Battery Electric	0	21
Bio Diesel	90	46
Diesel	40	0

Source: https://www.apta.com/research-technical-resources/transit-statistics/vehicle-database

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