

## ELECTRIC VEHICLES IN HOUSTON ARE PICKING UP.

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## THE FUTURE OF ELECTRIC TRANSPORTATION IS ALREADY HERE.

Houston Mayor Sylvester Turner, Chair of Climate Mayors, has committed to electrifying 100 percent of the City's light-duty, non-emergency vehicles by 2030. CenterPoint Energy has committed to electrifying 100 percent of its light-duty vehicles and 10 percent of its heavy-duty vehicles within the same timeframe. Evolve Houston, as a public-private partnership focused on accelerating electrified transportation and improving air quality, is working with other regional fleets to support the development of many more regional fleet electrification targets.

Fort Bend County has the highest per-capita EV ownership in Houston with five of every 1,000 light-duty vehicles being a PEV, plug-in electric vehicle. In conjunction with Evolve Houston, Fort Bend County is conducting a fleet study to accelerate fleet vehicle electrification. Montgomery County has made use of easily accessible utility incentives for commercial and residential Level 2 and DC-fast charging. And in 2020, despite the pandemic, new EV sales climbed to 1.1 percent of new car sales for PEVs and 1.9 percent for EVs, including hybrid electric vehicles, according to Texas DMV registration data.

## **EVs IMPROVE AIR QUALITY**

Accelerating electrified transportation is critical to the health of the Houston region. Currently, Houston is in non-attainment

for national ozone standards. Non-attainment status means that current ozone levels exceed the allowable emission limits. Ozone, while crucial when high in the atmosphere protecting us from incoming solar radiation is harmful to human health when at ground level. High levels of ground-level ozone exposure can result in decreased lung function and asthma. Additionally, being in non-attainment can hinder future economic growth for the industry in the region.



Transportation is a significant source of local air pollution as vehicle engine combustion forms nitrogen oxides, commonly referred to as NOx, which interact with other air pollutants, known as volatile organic compounds or VOCs, to form ozone. Mapping the origin and the exposure of these pollutants, <u>research from the Environmental Defense Fund</u> has found that many of the areas in Houston with dangerously high levels of air pollution are home to people of color, individuals with chronic illness, and those struggling financially.

EVs, powered by a battery instead of an internal combustion engine, do not have tailpipe emissions, sharply reducing ozone production and local air pollution exposure. To support the adoption of EVs and improve air quality, there are federal and Texas-specific incentives available to lower the upfront cost of purchasing an EV. The Texas Council on Environmental Quality (TCEQ) Texas Emissions Reduction Plan (TERP) program offers incentives for eligible individuals, businesses, or local governments to purchase EVs and associated charging infrastructure. To keep track of changing offerings and deadlines, Evolve Houston has created a <u>publicly available grants guide</u> that provides up-to-date information on current grants to maximize the benefits of switching to electric for all. Due to the efforts advancing transportation electrification, 42 percent of state-wide TCEQ funds for Level 2 charging have been directed to the Houston region.

## **ELECTRIC TRUCKS SIGNAL THE EV REVOLUTION**

The deployment of electric pick-up trucks, the most popular vehicle segment positioned to power the transition to EVs, is fast approaching. As of <u>2019 data</u>, of the 17 million light-duty vehicles sold in the U.S., 12.2 million were light-duty trucks, with the Ford F-150 and Chevy Silverado leading the pack. In Texas, which comprises <u>8 percent of national vehicle registrations</u>, the light-duty truck is both the number one and two top-selling passenger vehicle. Beyond being the preferred choice for consumers, the light-duty truck is an essential fleet vehicle.

As a result of their dominance in the consumer and commercial market in the Houston region, passenger trucks comprise 49 percent of vehicle miles traveled according to the <u>2017 National Emissions Inventory Data</u>. This dominance, in conjunction with comparatively lower fuel efficiency, means that passenger trucks are the leading contributor of NOx, methane, and carbon dioxide emissions across all vehicle segments. Electrifying pick-up trucks will significantly improve Houston's air quality while also enhancing vehicle performance.

Recent announcements of electric trucks for fleet and consumer applications from automakers such as Tesla, Rivian, Lordstown, Ford, and Chevrolet, demonstrate the impressive power, torque, and towing capacity of a battery-powered vehicle. Currently, the Rivian R1, GMC Electric Hummer, Lordstown Endurance, Bollinger B2, Atlis XT, Chevy Pickup, Tesla Cybertruck, Nikola Badger, Electric Ford F-150, and Karma EREV have announced launches between 2021-2022 and have between 200-500 miles of range. Additionally, the <u>Biden Administration's announcement</u> to electrify the over 645,000 vehicles in the federal fleet will only accelerate the deployment of electric trucks.

With over 7,000 fleets operating in Houston, the region can lead the nation in fleet conversions. Evolve Houston plans to raise awareness of and help accelerate the conversion to electric pick-up trucks. Recently, in December 2020, Evolve Houston hosted the exclusive <u>Texas debut of the 2021 Lordstown Endurance at NRG</u> stadium.



As the largest market for trucks, Texas will lead electric pick-up truck adoption and continue to attract manufacturing that extends the established value chain into EVs. Notable existing facilities include Toyota manufacturing in San Antonio and Dallas; the establishment of the Tesla Cybertruck factory in Austin; Peterbilt's presence in Denton; Navistar operating in San Antonio; and Toshiba Heavy Industries manufacturing Ford plug-in hybrids in Houston. With manufacturing expertise in close proximity to the Port of Houston, Texas--and the Houston region in particular--is ready to maximize its financial, environmental, and public health benefits from the transition to electric trucks.

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