Power A Clean Future Ohio
LOCAL COMMUNITIES LEADING THE WAY

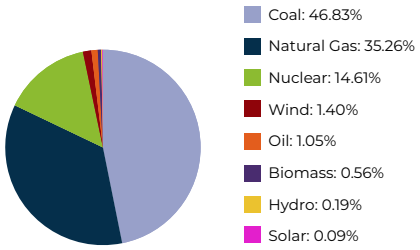
Transportation Electrification: Driving the Future

TRANSPORTATION, THE ECONOMY, AND SUSTAINABILITY

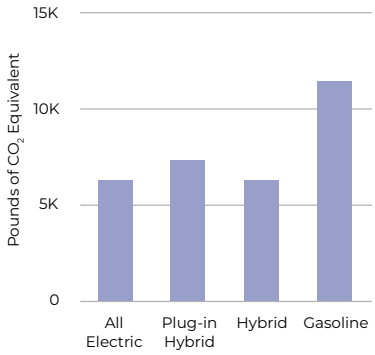
Transportation is vital to the economic well-being of Ohio. In the state, transportation infrastructure alone supports **132,374 full-time jobs** across all sectors of the state economy, earning **$5.5 billion annually** in wages.[1] This thriving transportation sector supports the movement of nearly 5.5 million workers, whose commute amounts to nearly **32 billion vehicle miles annually.** A whopping **92%** of these commuters get to work by driving, compared to **only 1.7%** who take public transit.[2] However, Ohio's single-vehicle-centric transportation sector comes at a serious environmental cost: according to the U.S. Energy Information Administration, Ohio ranks 6th in the country for CO2 emissions, with total annual emissions capping **204 million metric tons of CO_2**. Figure 1.1 illustrates the relationship between energy production sources and emissions by vehicle type in Ohio.[3]

STATE AVERAGES FOR OHIO

ELECTRICITY SOURCES



ANNUAL EMISSIONS PER VEHICLE



Finding the crucial balance of environmental sustainability and effective transportation is therefore a major component in mitigating the effects of global climate change while also preserving the transportation sector's economic prosperity.

THE FUTURE OF TRANSPORTATION

Fortunately, transportation electrification has the potential to bring both factors into equilibrium. Transportation electrification describes the multi-step process of adopting alternative fuel vehicles, including electric vehicles, to the mainstream transportation sector. It requires the cooperation and participation of utilities, policymakers, and consumers to be fully successful, but promises a wide range of societal benefits. Examples are listed below:

SOCIETAL BENEFITS OF TRANSPORTATION ELECTRIFICATION

Economic Development

According to the US Energy Information Administration, **over 80% of the cost** of a gallon of gas immediately leaves the local economy. Reducing dependency on fossil fuels through electrification keeps money in the local economy.

Environment

Assuming a 10-year useful life, an average conventional car will emit **66,000 pounds more—or 3 tons—of carbon** pollution in its lifetime compared to an average electric vehicle.

Health

The American Lung Association estimates that **transportation pollution causes $1.15 in damages** per gallon of gas. Pollution-related illness **disproportionally affects** high-poverty areas and people of color.

National Security

Electrification dramatically reduces oil dependence on foreign powers, paving the way of **energy independence** and less oil-related conflicts.

Job Creation

A recent study estimates that the addition of 1,000 PEVs to Ohio's economy would result in net economic impacts of **$1.3 million** in increased economic output, **$508,000 in additional wages, and 20 jobs.**

POLICY POINTERS

Transportation electrification covers a wide array of policy areas but can be broadly categorized according to their desired objective. These areas include **fleet sustainability, reduction in single occupancy vehicle trips and facilitation of EV adoption.**

POLICY CATEGORY	POLICY OBJECTIVE	EXAMPLE
Expanding access to public transportation	Make public transportation more viable and equitable	Work with transportation service providers to implement flexible non-fixed routes, micro-transit, and partnerships with employers for commuter services; conduct assessment of public transportation services and optimize to current conditions or create additional routes to maximize efficiency and promote equitable transportation options.
Reduction in single occupancy vehicle trips	Reduce number of vehicles on the road through managed transportation	Using a combination of targeted infrastructure improvements, lane striping, signage and enforcement, ensure a safe environment for pedestrians, bikes, scooters and similar modes.
Facilitation of EV adoption	Create policies that allow for EV infrastructure and deployment	Amend the zoning ordinances to include Electric Vehicle Supply Equipment (EVSE, EV charging stations) as a permitted accessory use in select or all districts, create ordinance to include regulations and design standards for EVSE, EV parking spaces, and design guidelines for installation of EVSE, Integrate EV best practices information into building permit processes

References:
1 Ohio - State Energy Profile Overview - US Energy Information Administration
2 OHIO TRANSPORTATION FACTS—ECONOMIC IMPACTS
3 Ohio Transportation Data for Alternative Fuels and Vehicles