

The Gas Tax In America: An Updated Outlook

Ed Regan
Transportation
Consultant

Presented at:

**NCSL Alternative
Transportation User Fee
Foundation Partnership Meeting**



SALT LAKE CITY | JUNE 4, 2023

The Motor Fuel Tax in America: A System at Risk



The motor fuel tax has served as the primary source of funding for transportation in America for almost 100 years

- An efficient proxy for a direct user fee



It has served us well; but its days may be numbered

- Increasing fuel efficiency
- Dramatic shift toward fully electric vehicles

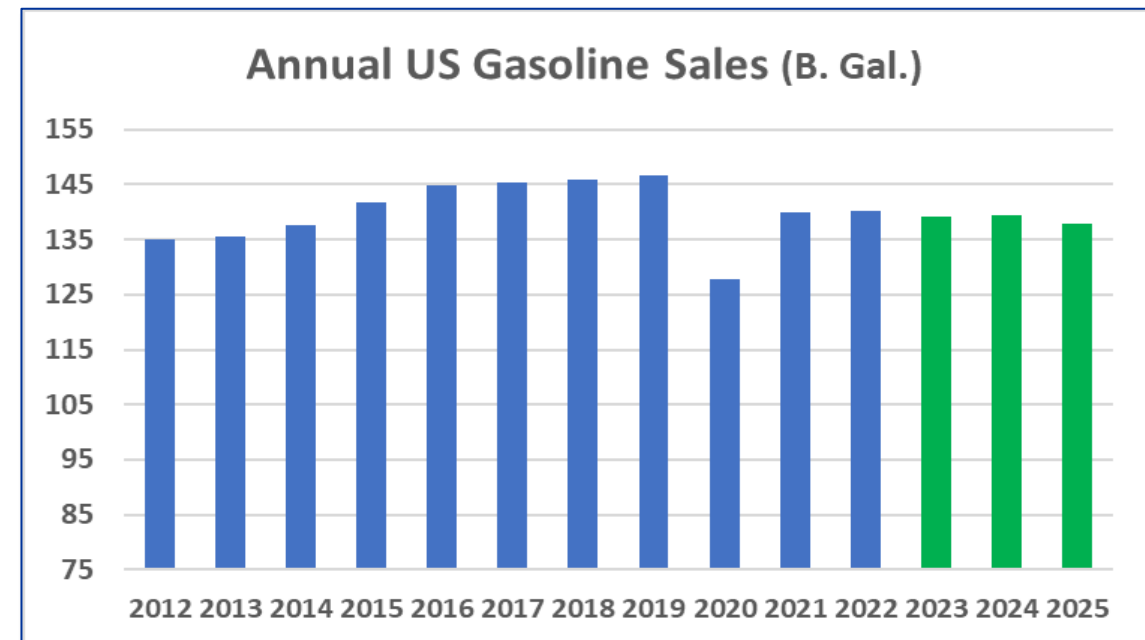
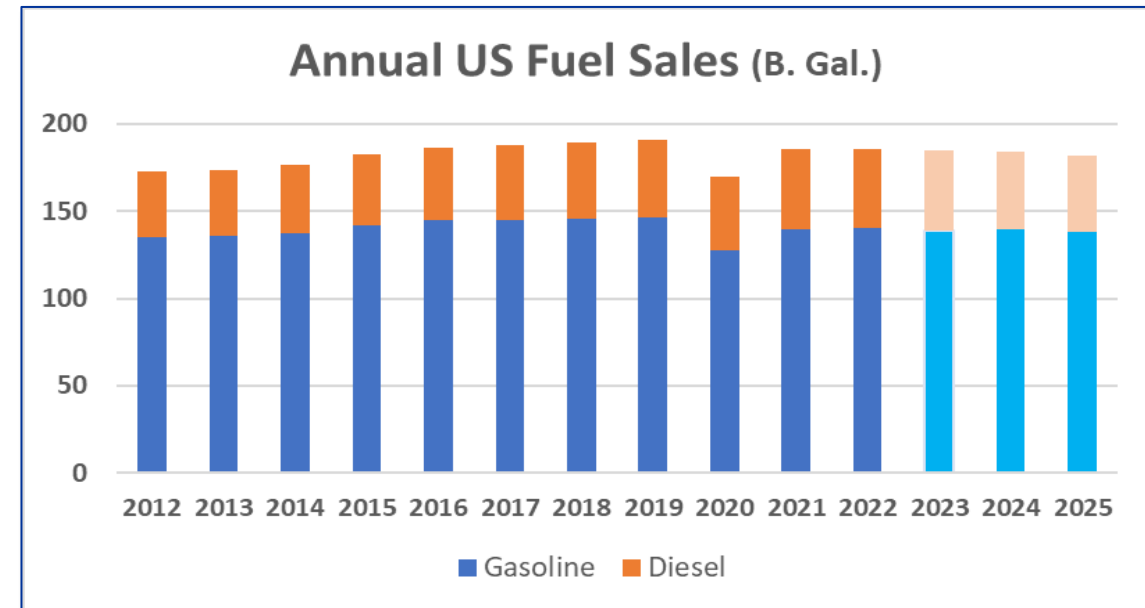


Today's presentation: an updated look at the sustainability of the gas tax

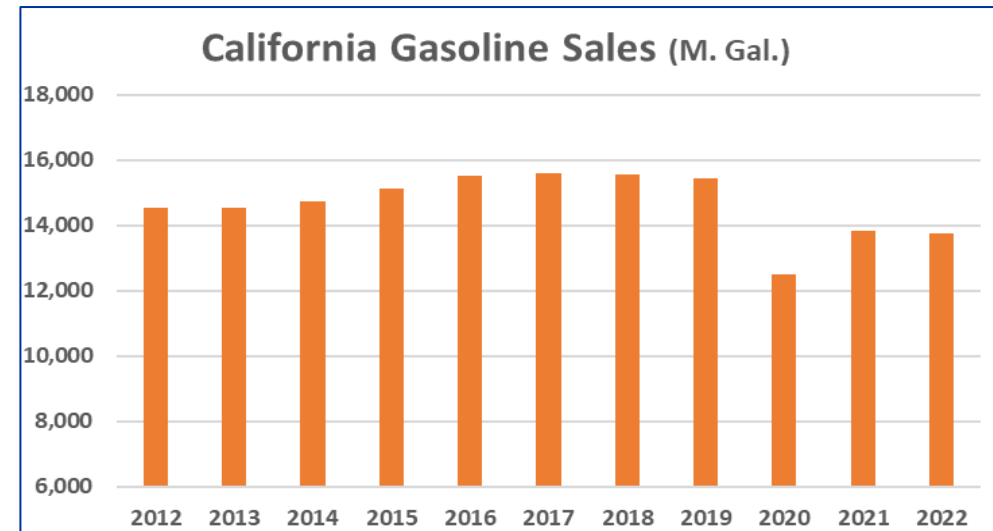
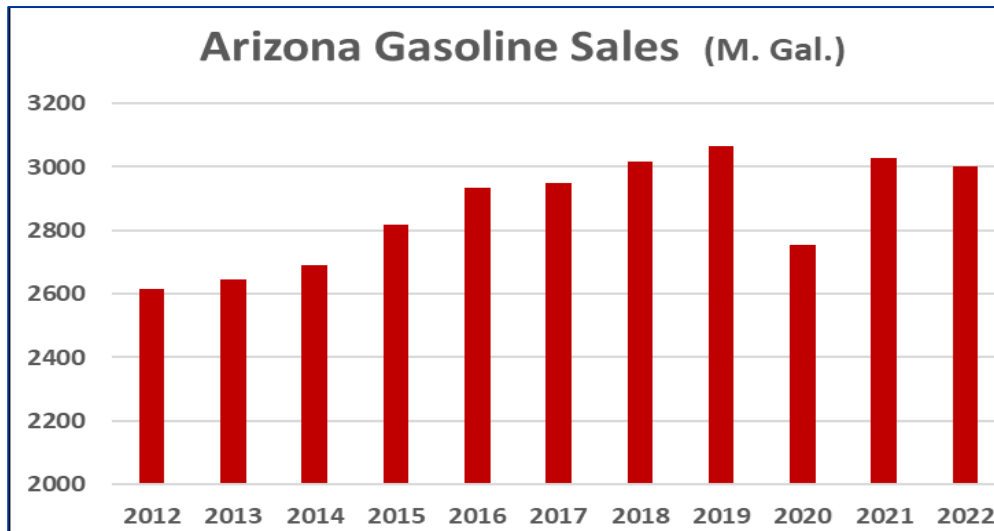
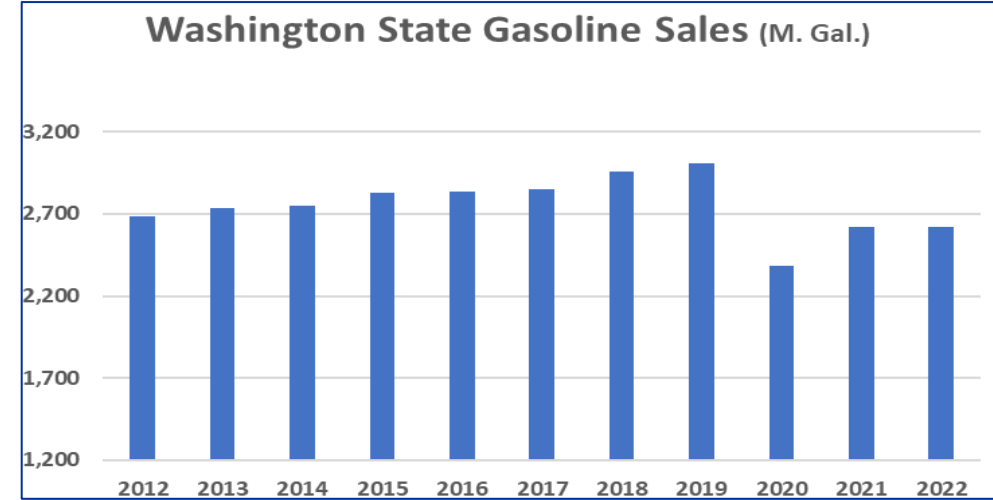
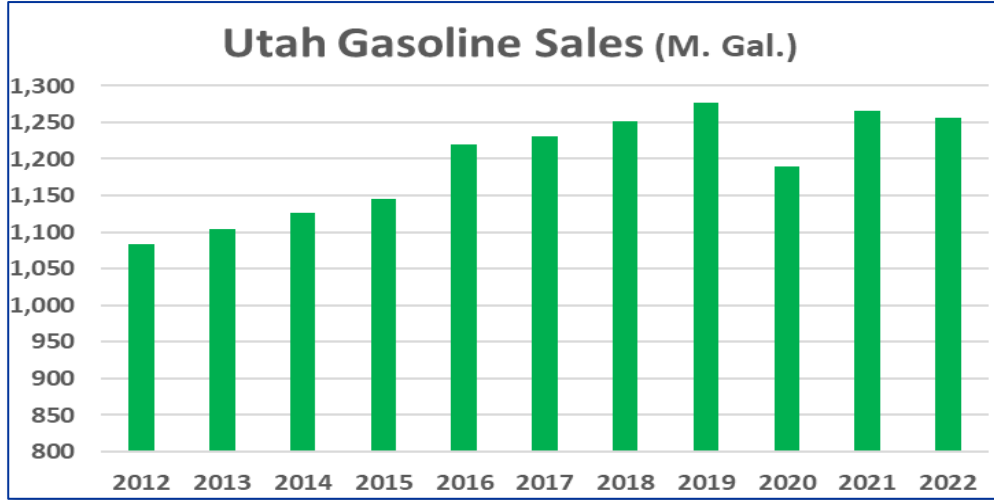
- Builds upon the latest 2023 EIA Annual Energy Outlook
- Three alternative future scenarios

Recent US Fuel Sales Trends

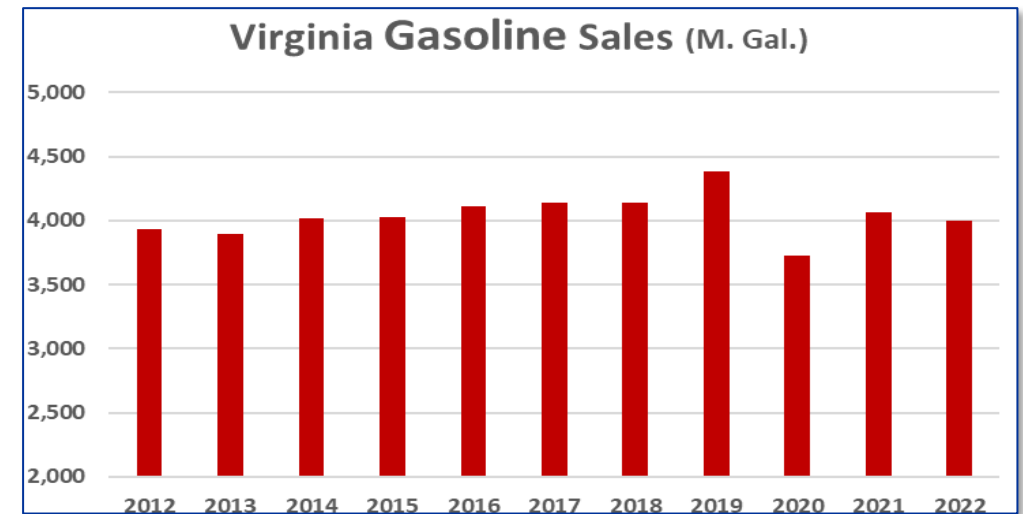
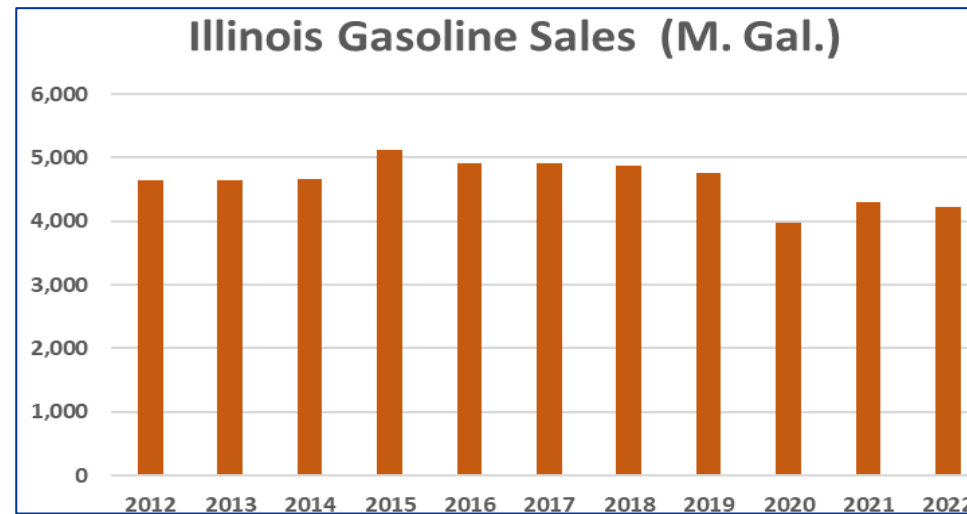
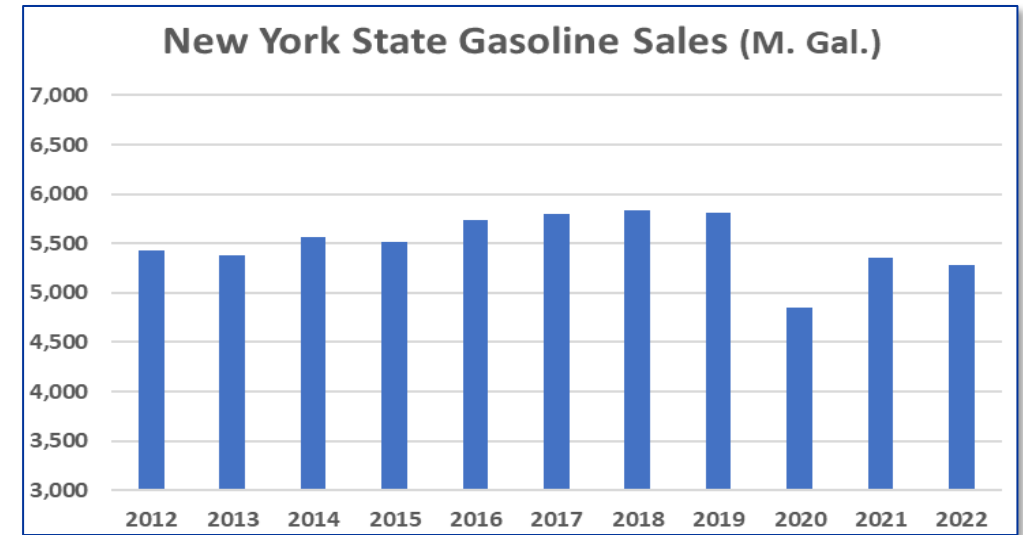
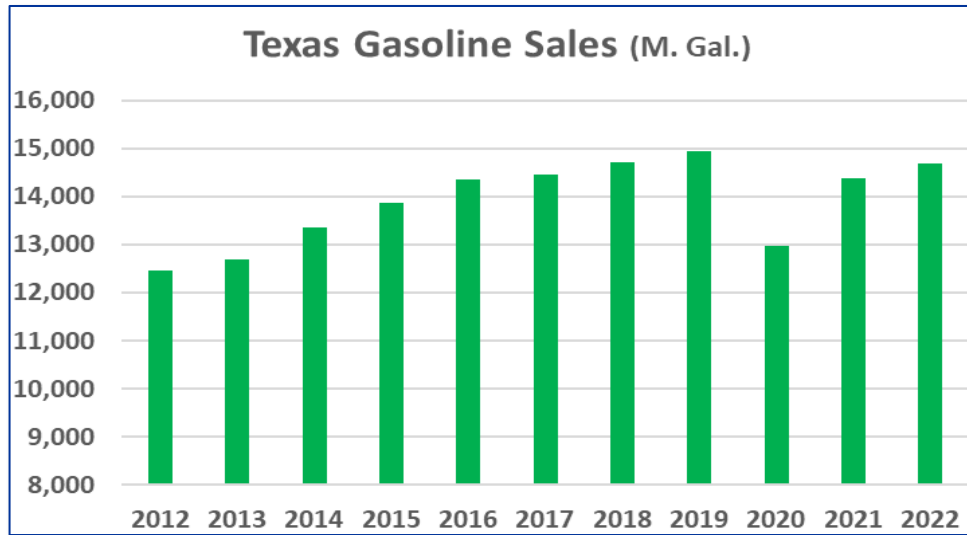
- Continuous growth from 2012 thru 2019
- Big Drop in 2020 due to Covid pandemic
 - Total fuel down 11%
 - Gasoline down 13%
- Recovery in 2021; but little growth in 2022
 - VMT up by 2.75%
 - Total Fuel up by only 0.15%
 - Gasoline up by only 0.12%
- 2022 VMT within 0.5% of 2019 pre-pandemic level
 - But total fuel is still 2.7% lower
 - Gasoline sales down 4.4%
- Seems we reached “peak fuel” in 2019
 - And were headed down
 - Initial Projections using EIA 2023 AEI Ref. Case



Recent Gasoline Sales in Selected States

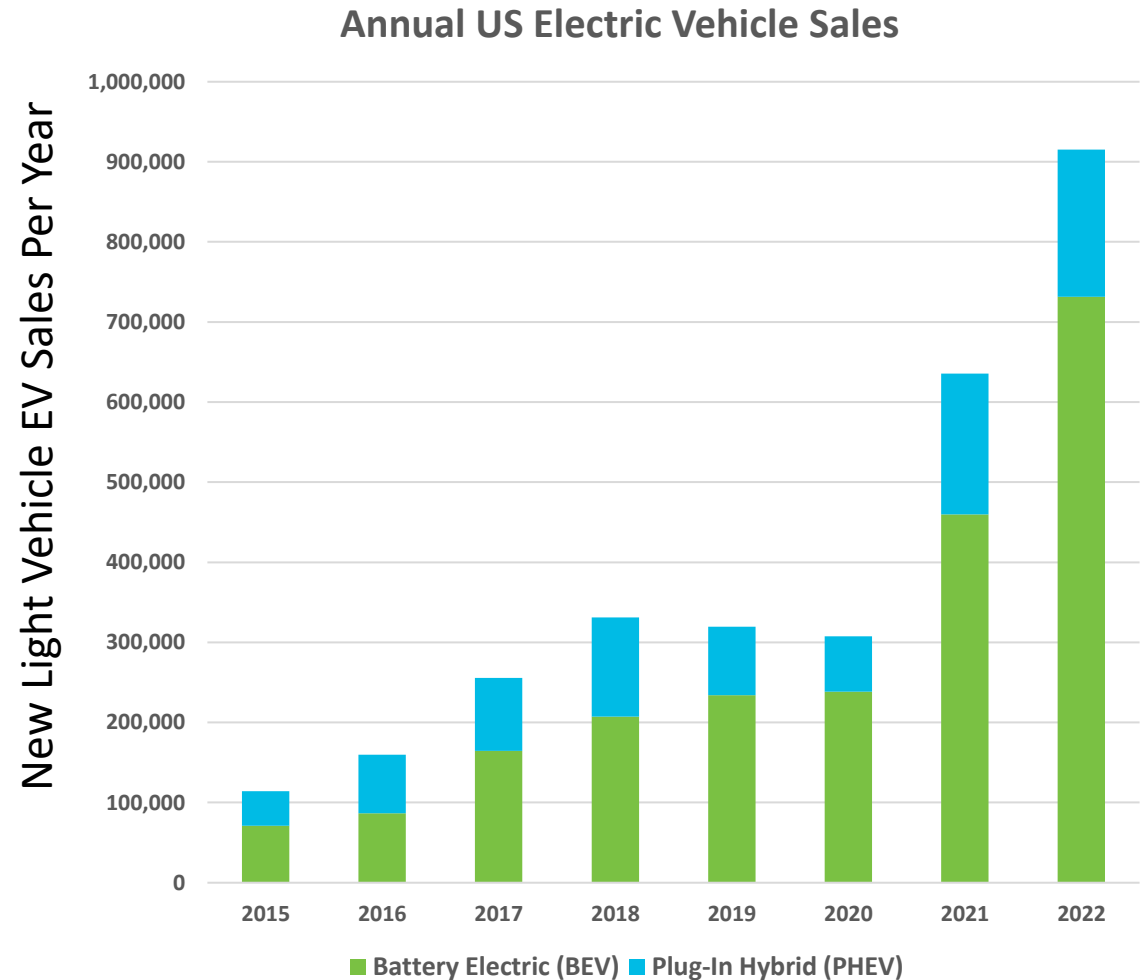


Recent Gasoline Sales in Selected States

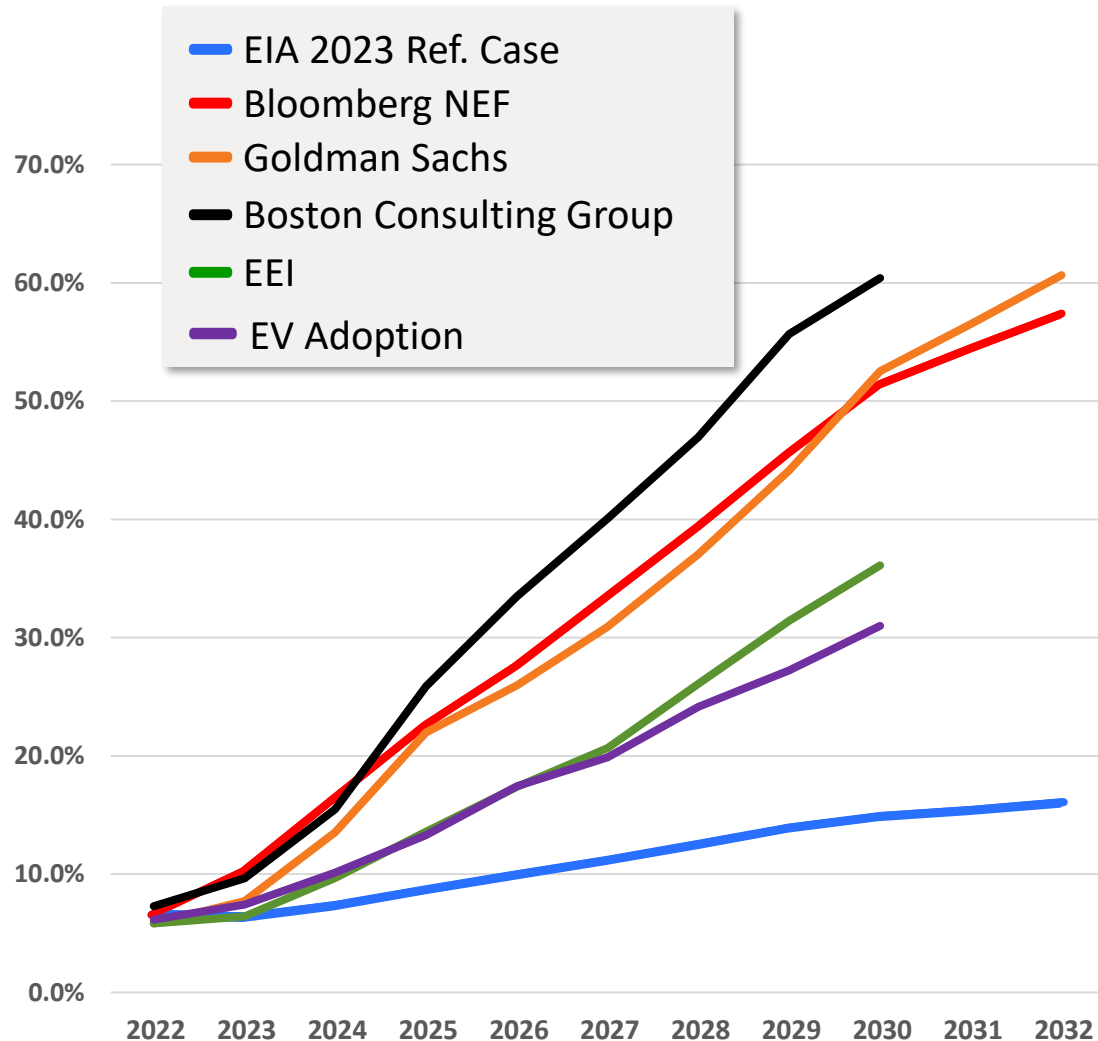


An Emerging Surge in New Electric Light Vehicle Sales

- Between 2017 and 2020, new electric vehicle sales averaged just over 300,000 per year
 - Less than 2% of total LV sales
 - About 70% BEV and 30% PHEV
- EV sales in US more than doubled in 2021 to over 635,000
 - 4.25% of total LV sales
- In 2022, BEV and PHEV sales totaled over 915,000
 - Almost 6.7% of total sales
 - A 44% increase over 2021
 - A 3-fold increase over EV sales in 2020

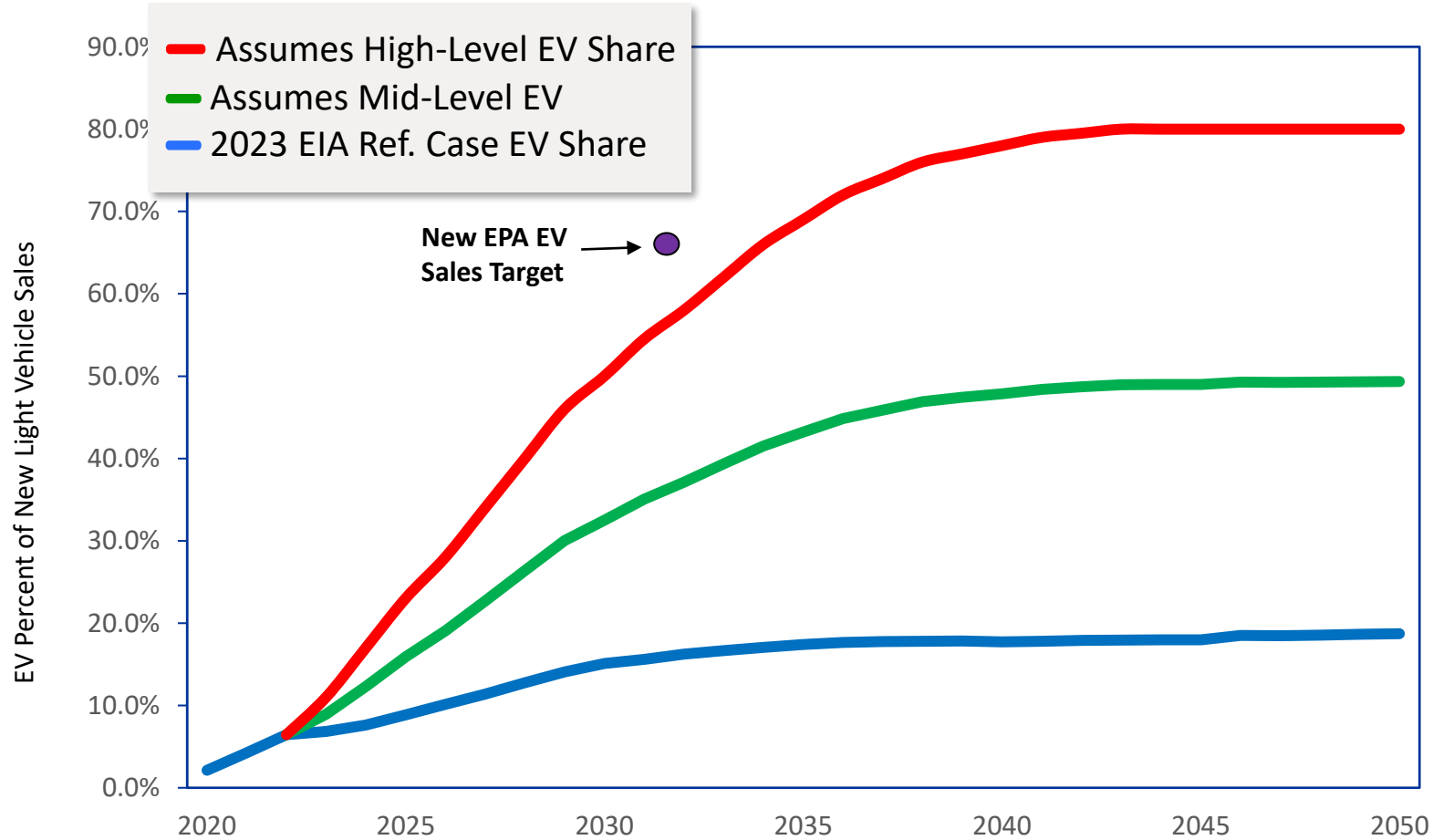


Looking Forward: Alternative Projections of EV Light Vehicle Sales Shares



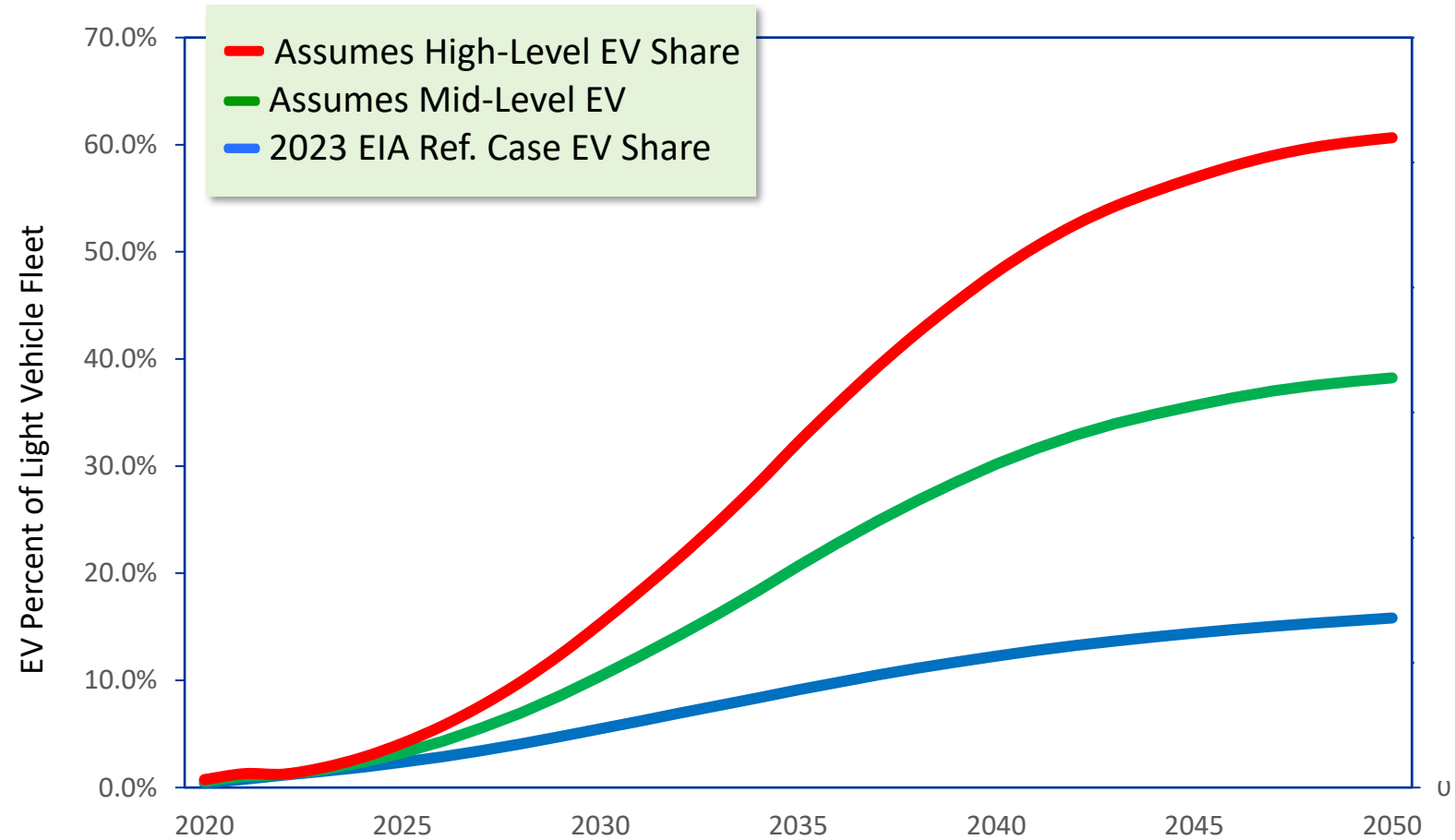
- Near term estimates over next 8-10 years
- EIA 2023 Annual Energy Outlook
 - Somewhat higher than 2022 forecast but still less than most other projections
 - Estimated to reach over 16% by 2032
- Bloomberg New Energy Finance
 - Traditionally one of the highest estimated EV share
 - Recent 2023 updated projection expects EV share to reach 50% of light vehicle sales by 2030
- Four other independent projections
 - Two in the “mid-level”, between EIA and BNEF
 - Edison Energy Institute and EV Adoption
 - Two comparable to or higher than BNEF
 - Goldman Sachs and Boston Consulting
- New EPA Proposal
 - 67% of Light and Medium Vehicle sales should be EV by 2032!

Alternative Estimates of EV Share of New U.S. Light Vehicle Sales

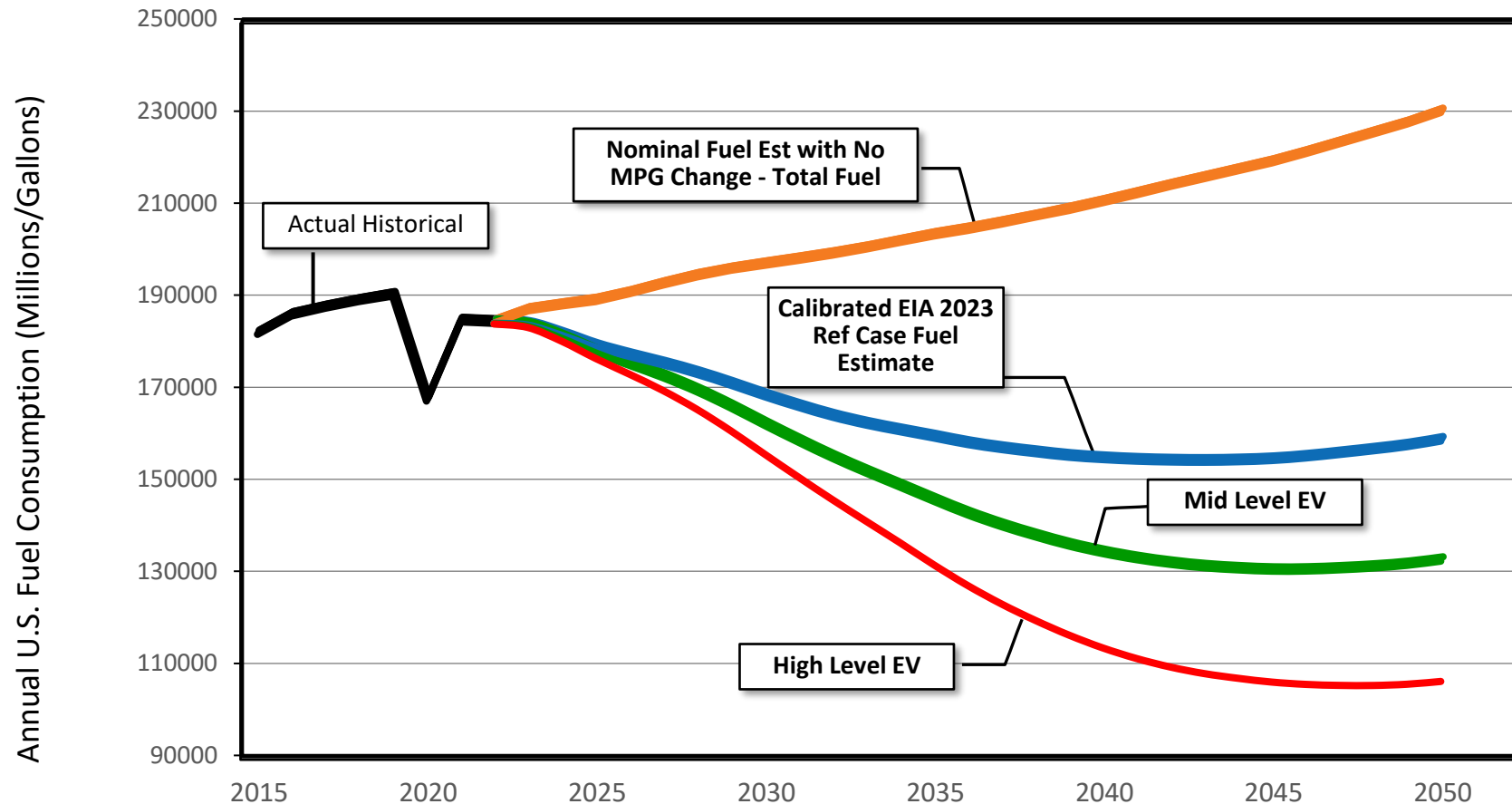


Includes BEV and PHEV Vehicles

Alternative Estimates of U.S. Light Vehicle Fleet EV Shares

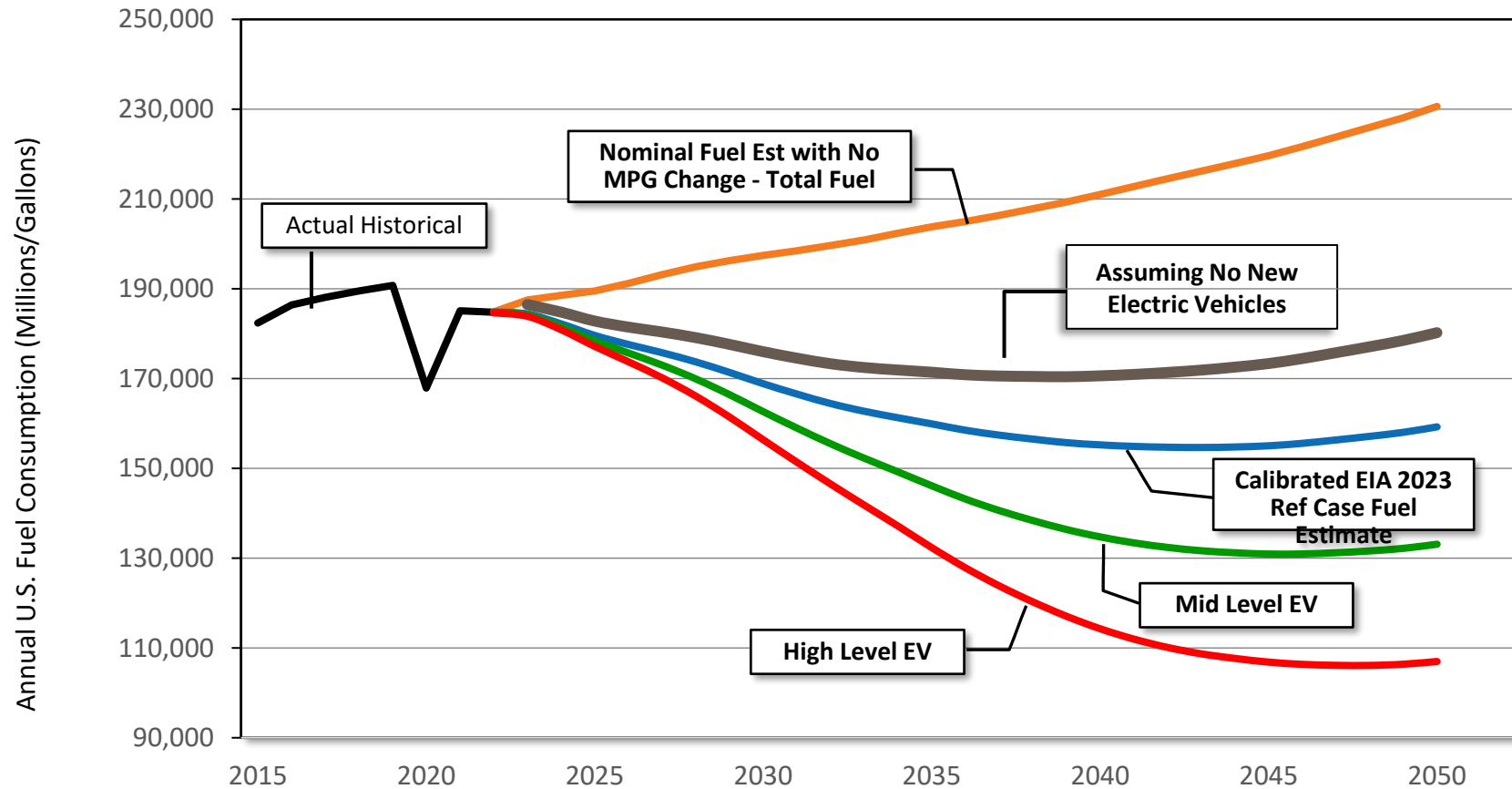


Comparison of Estimated Total U.S. Fuel Sales Forecasts



Source: US Energy Information Administration.
Bloomberg New Energy Finance.

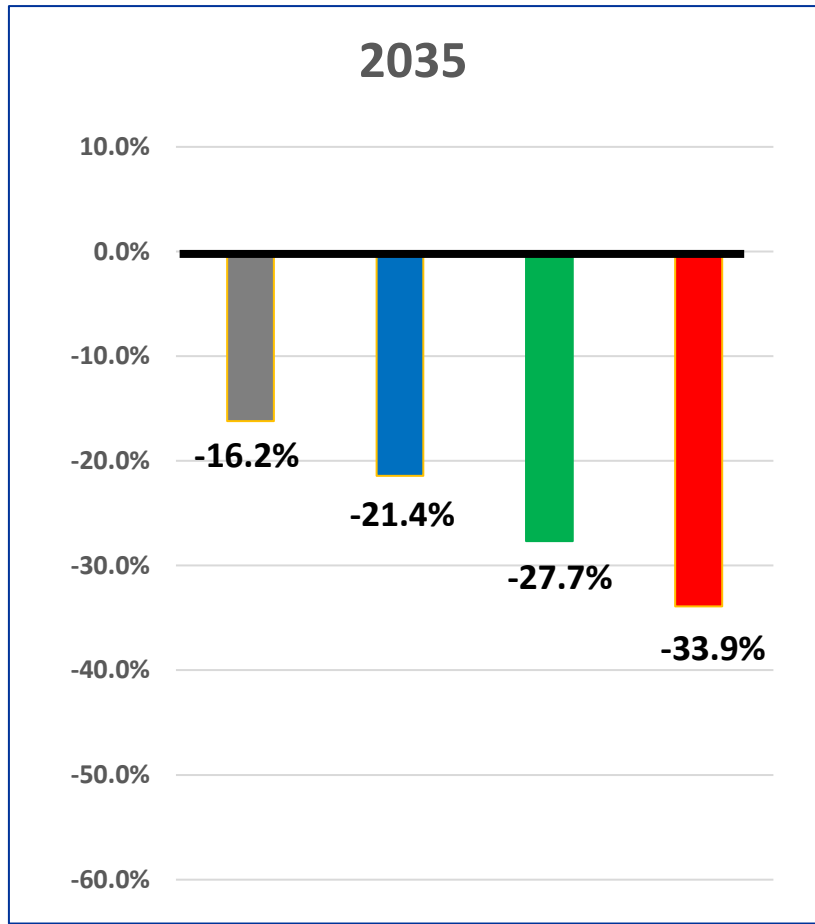
Comparison of Estimated Total U.S. Fuel Sales Forecasts



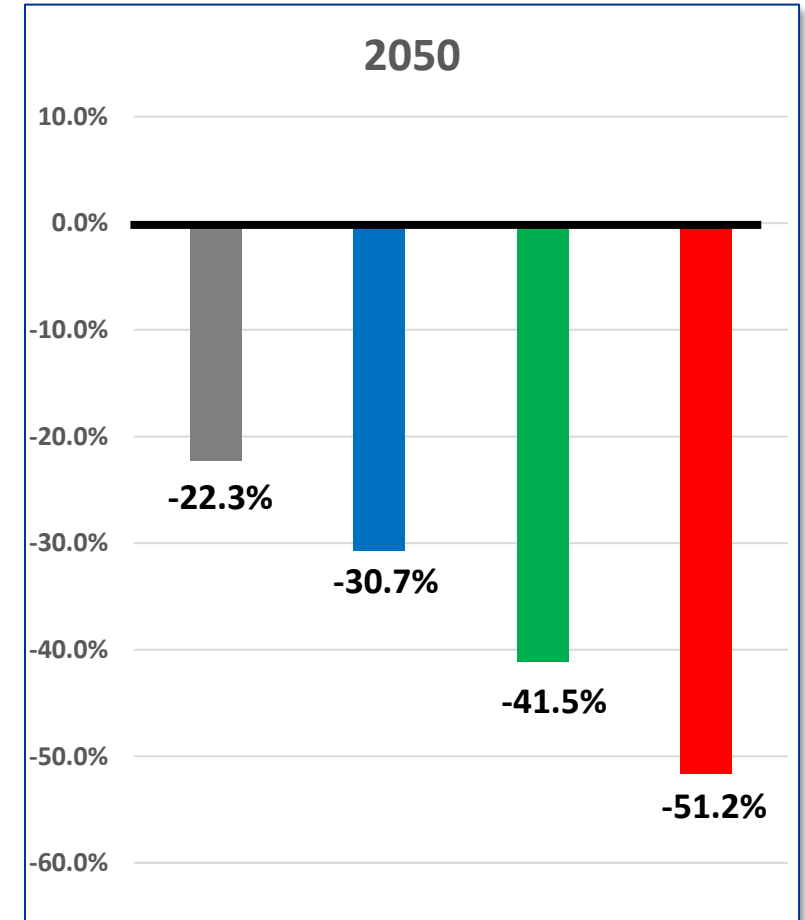
Source: US Energy Information Administration.
Bloomberg New Energy Finance.

Comparison of National Fuel Sales

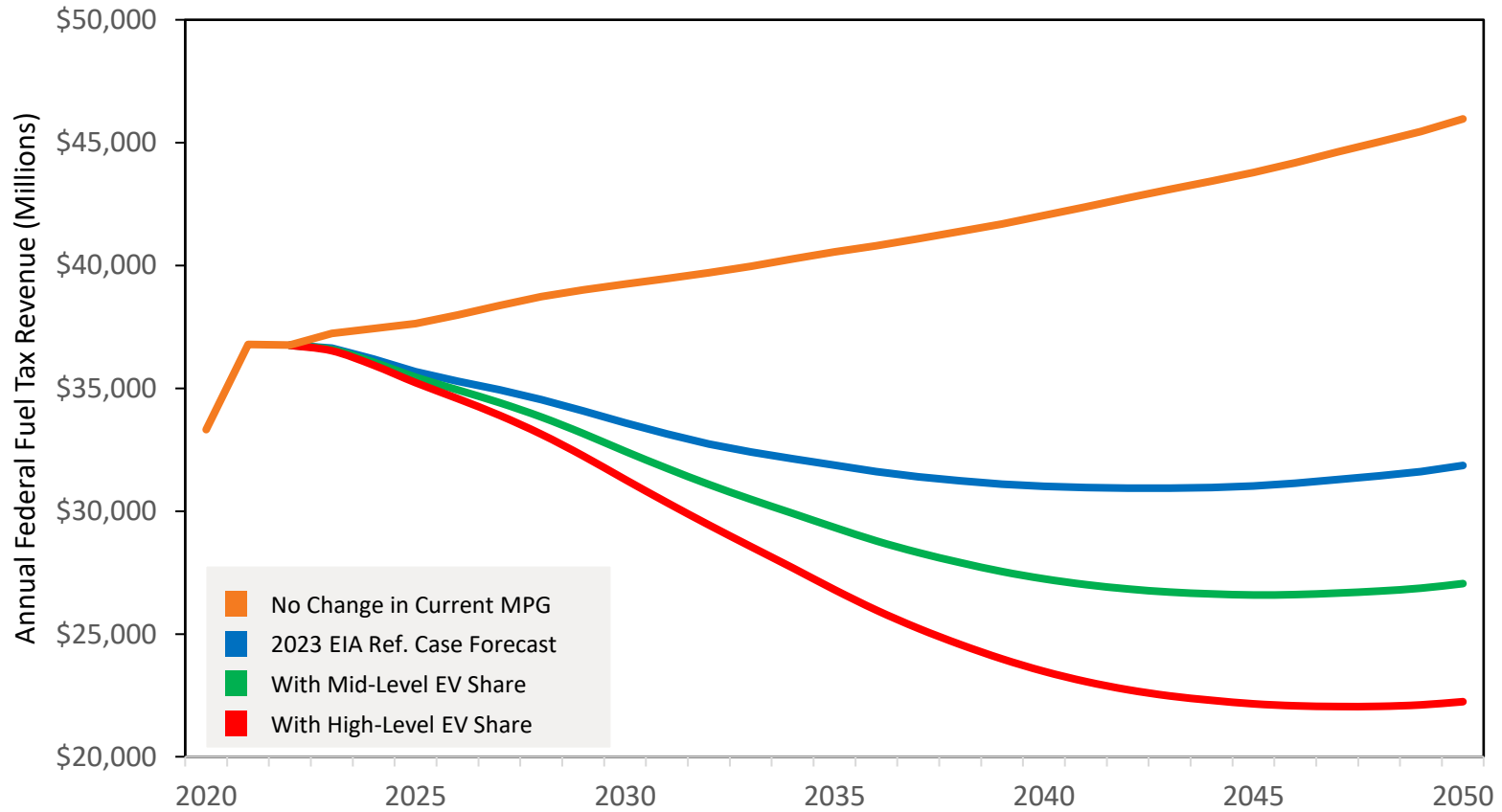
Impacts by Scenario



- No EVs – Incr. MPG Only
- EIA 2023 Ref. Case
- Mid-Case EV Share
- High- Case EV Share

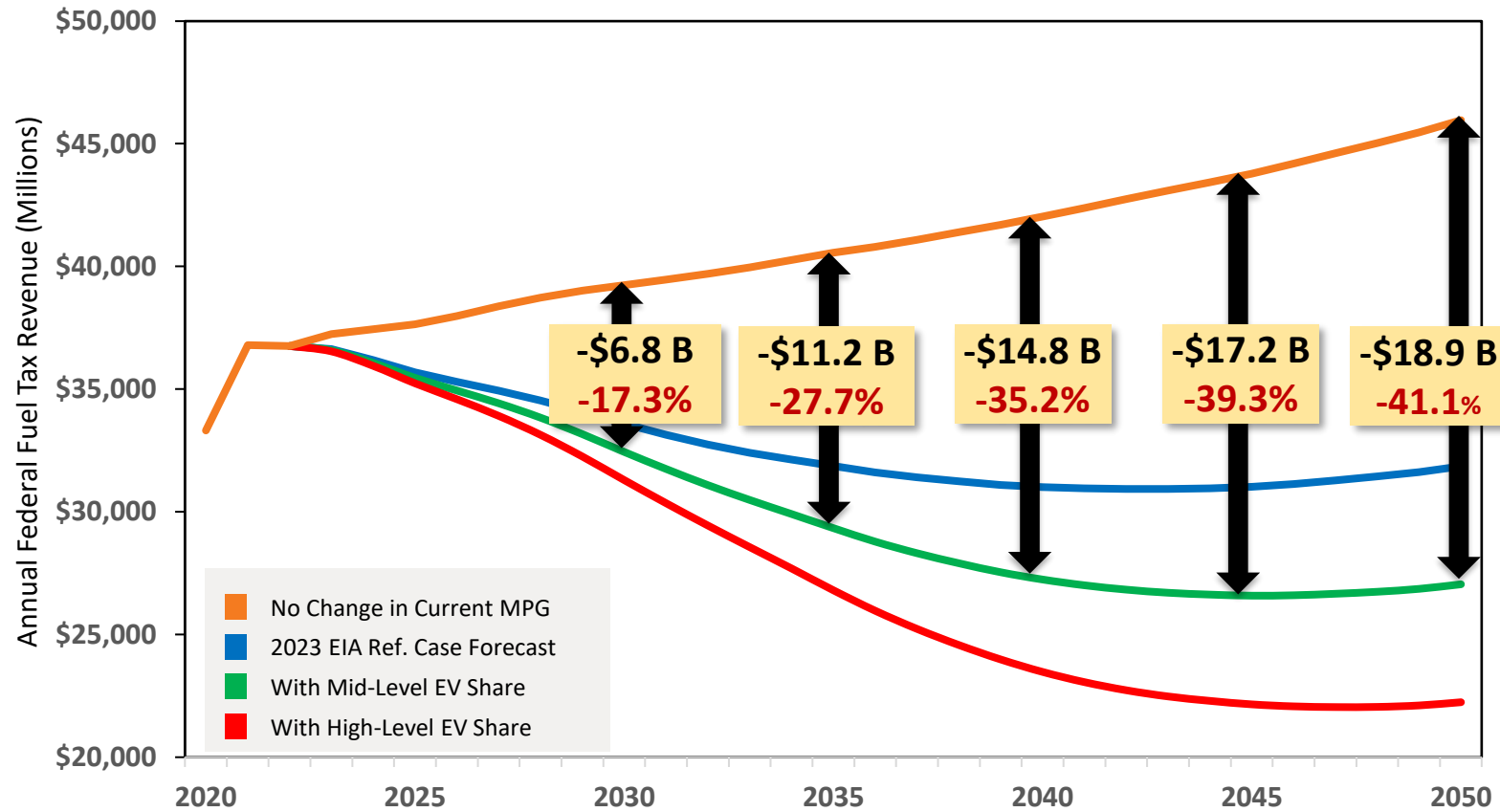


Estimated Annual Federal Fuel Tax Revenue



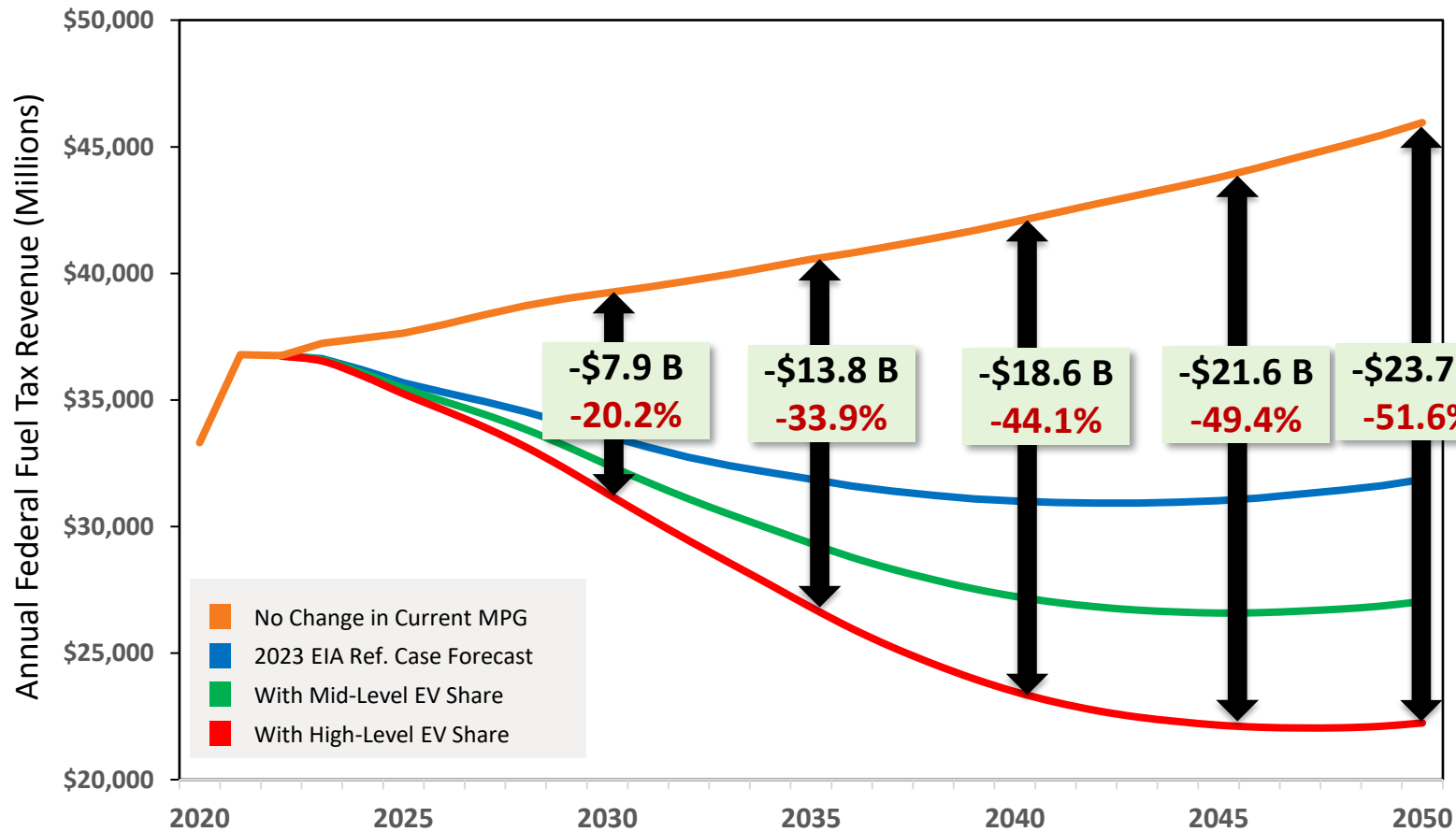
Estimated Annual Federal Fuel Tax Revenue

Impacts With “Mid-Level” EV Penetration

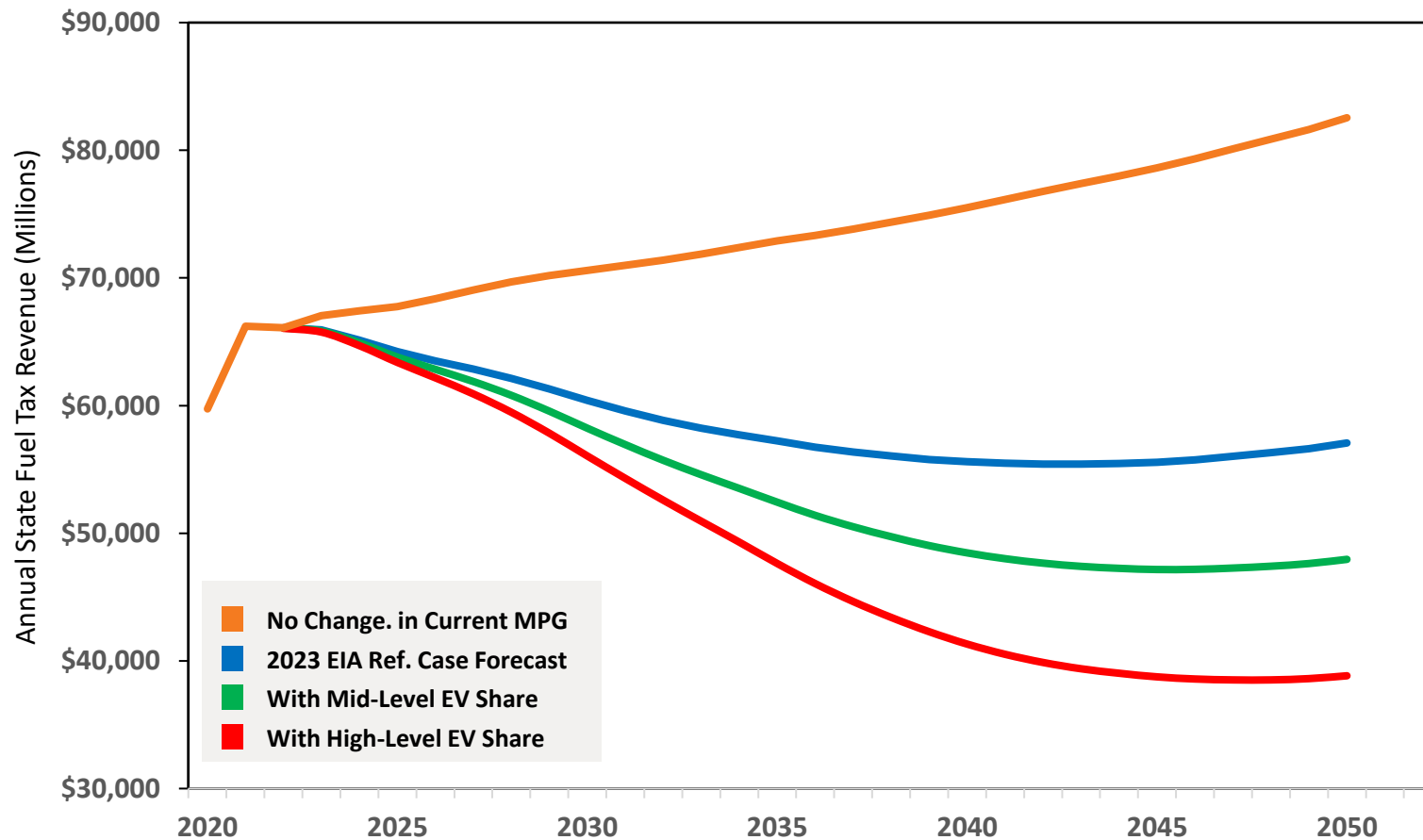


Estimated Annual Federal Fuel Tax Revenue

Impacts With “High-Level” EV Penetration



Estimated Annual State Fuel Tax Revenue



**2023 Weighted
Average State
Motor Fuel Taxes**

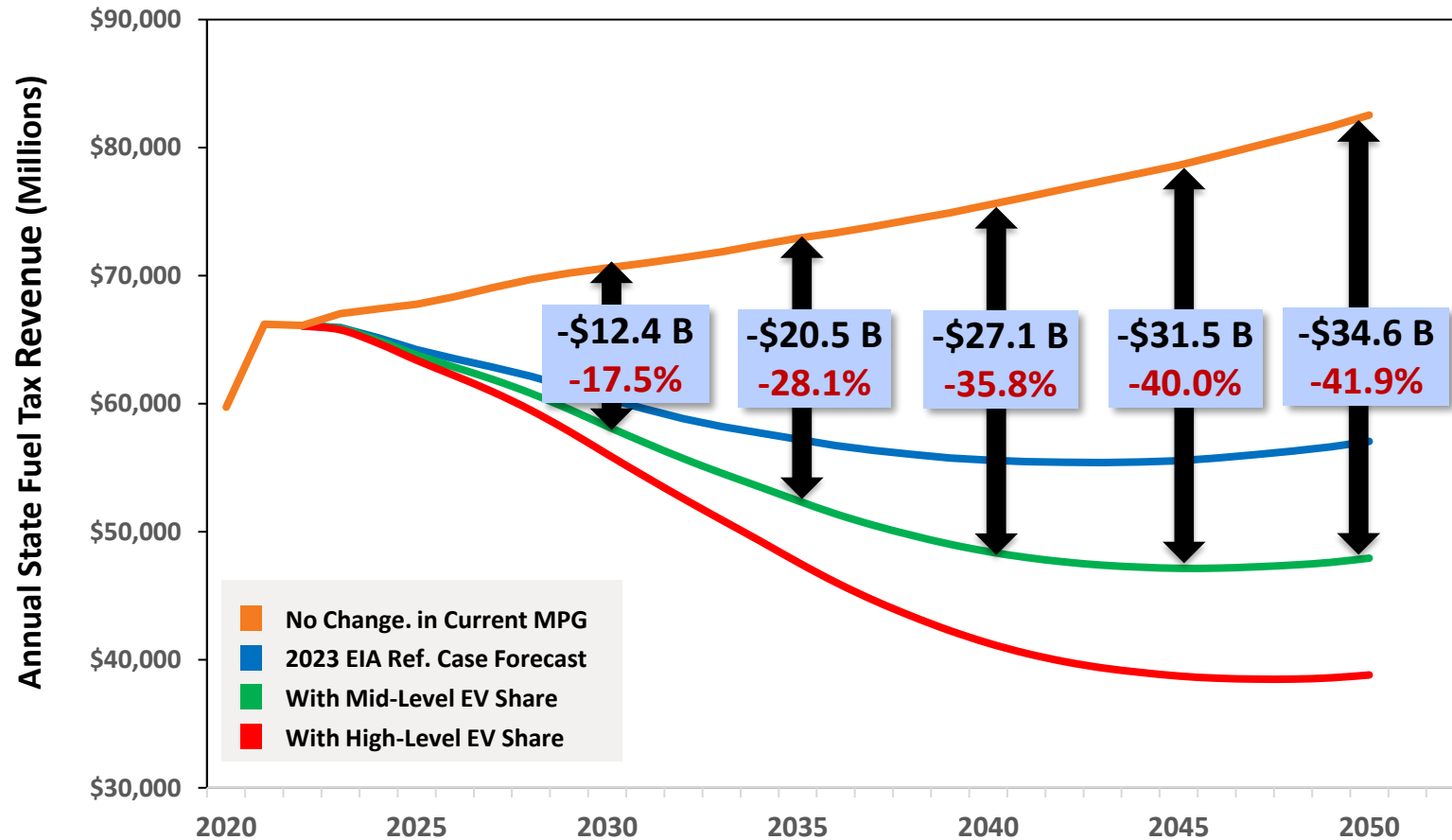
Gasoline: \$0.349

Diesel: \$0.384

***Excludes additional state
sales tax
and other special fees**

Estimated Annual State Fuel Tax Revenue

Impacts With “Mid-Level” EV Penetration



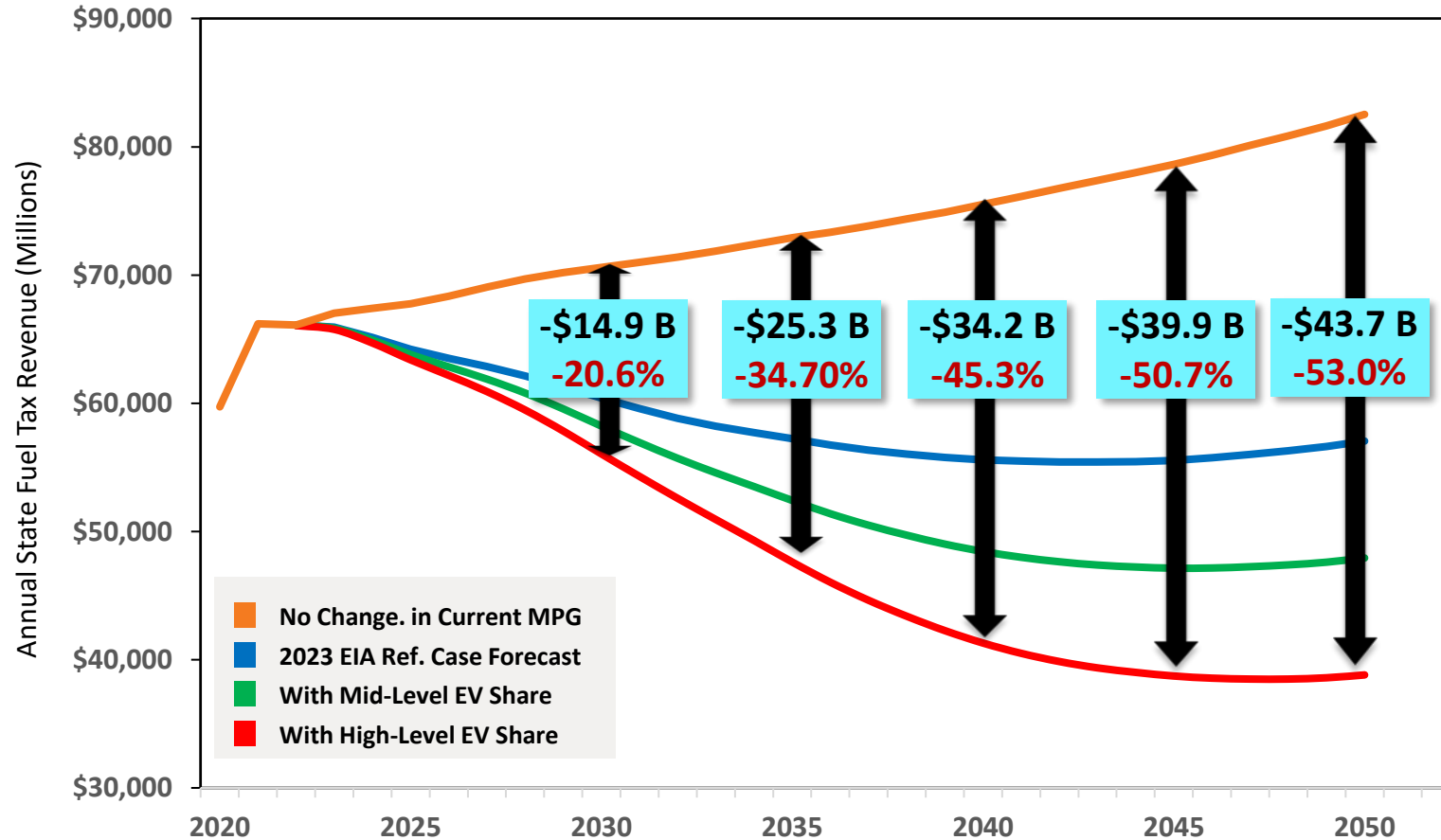
2023 Weighted
Average State
Motor Fuel Taxes

Gasoline: \$0.349
Diesel: \$0.384

*Excludes additional state
sales tax
and other special fees

Estimated Annual State Fuel Tax Revenue

Impacts With “High-Level” EV Penetration



2023 Weighted
Average State
Motor Fuel Taxes

Gasoline: \$0.349
Diesel: \$0.384

*Excludes additional state
sales tax
and other special fees

In Conclusion....



- America likely reached “Peak Fuel” consumption in 2019
 - We are already beginning to see a long term decline in fuel sales
- Electric vehicle sales beginning to surge
 - Expect 1.0 to 1.2 million new EVs sold in 2023
 - Could reach 50 percent of all new vehicle sales by 2030-35
- Due to increasing fuel efficiency and EV penetration, future fuel consumption (and gas tax revenue) will decline significantly
 - 25-35 % by 2035
 - 35-50% by 2050
 - Will decline by 25% even with no new EVs due to improving MPG
- The days of the motor fuel tax as the primary source of funding for transportation in America are numbered

Thank You.

Ed Regan | Reganed3@gmail.com

