Clean Car Roll-back

Estimated costs for American families if U.S. climate pollution and fuel economy standards are rolled back

UPDATE August 27, 2019

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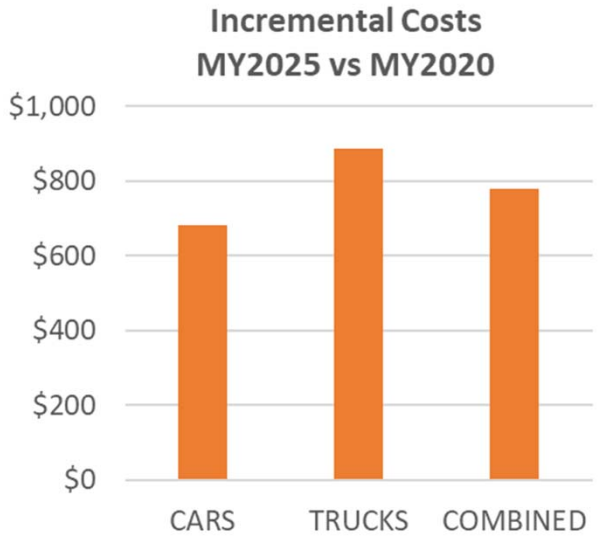
U.S. Climate Pollution and Fuel Economy Standards Save Families Money

- On Aug. 2, 2018, EPA and NHTSA released a proposed rule that would dramatically roll back the current U.S. climate pollution and Corporate Average Fuel Economy (CAFE) standards. The current standards require gradual climate pollution reductions every year, which will spur increases in fuel efficiency for all new vehicles sold between now and 2025
- The proposal recommends capping U.S. climate pollution and fuel economy targets at model year 2020 levels – with no further increases in later years
- This analysis indicates that rolling back the current U.S. climate pollution and fuel economy standards in this way will ***cost the average American family as much as $514 per year during the timeframe that they own MY2025 vehicles***
- Families in every state stand to lose money due to higher annual gasoline costs – but those in some of the lowest income states will likely lose the most because they do more driving every year
- More stringent standards also protect families against rising gas prices – keeping the model year 2025 standards will save the average U.S. family an additional $90/year for every $0.50/gallon increase in gasoline prices
- Compared to vehicles that meet Model Year 2020 standards, life-time savings from vehicles that meet the current Model Year 2025 standards will be at least $2,800 more for cars and at least $4,500 more for light trucks

How do Families Save Money with Clean Cars?

Monthly fuel cost savings outweigh increased vehicle costs

More stringent U.S. climate pollution and fuel economy standards will add $700 - $900 to vehicle purchase costs…



FAMILIES WILL START SAVING MONEY RIGHT AWAY – AND CONTINUE SAVING AS LONG AS THEY OWN THE VEHICLE

…. but monthly fuel cost savings will be greater than increased monthly car and insurance payments

One New Vehicle	Per Month		
Incr car payment [1]	$14.09		
Fuel Savings	($21.80)	**Per year**	**6 years**
NET SAVINGS	***($7.71)***	***($92.52)***	***($555.12)***
			Typical life of new car loan[2]

[1] *Incremental car payment includes sales tax and additional insurance cost*

[2] *Does not include potential increase in 6-year resale value due to higher fuel economy*

Based on $778 incremental purchase cost, 6 year new car loan at 4.25%, fuel cost $3.16/gallon, and monthly fuel savings of 6.9 gallons

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Annual Savings for the Average U.S. Family with Clean Cars

The average U.S. family owns 2.1 cars and drives 24,555 miles per year.

For this family *net savings* from MY2025 U.S. climate pollution and fuel economy standards could be *over $500/year* and *over $3,000* during the time they own MY2025 vehicles[1], depending on fuel costs (High Oil Price)

Annual family savings will increase by $90 for every $0.50/gallon increase in gasoline prices

Net Savings [2] AVERAGE U.S. FAMILY (2018$)		
	Reference	High Oil Price
One Year	$212	$514
6 Years [3] *Typical time a family owns a car*	$1,272	$3,084

[1] *Annual savings could be even higher for the next new vehicles they purchased, if U.S. Climate pollution and fuel economy standards continued to increase each year.*

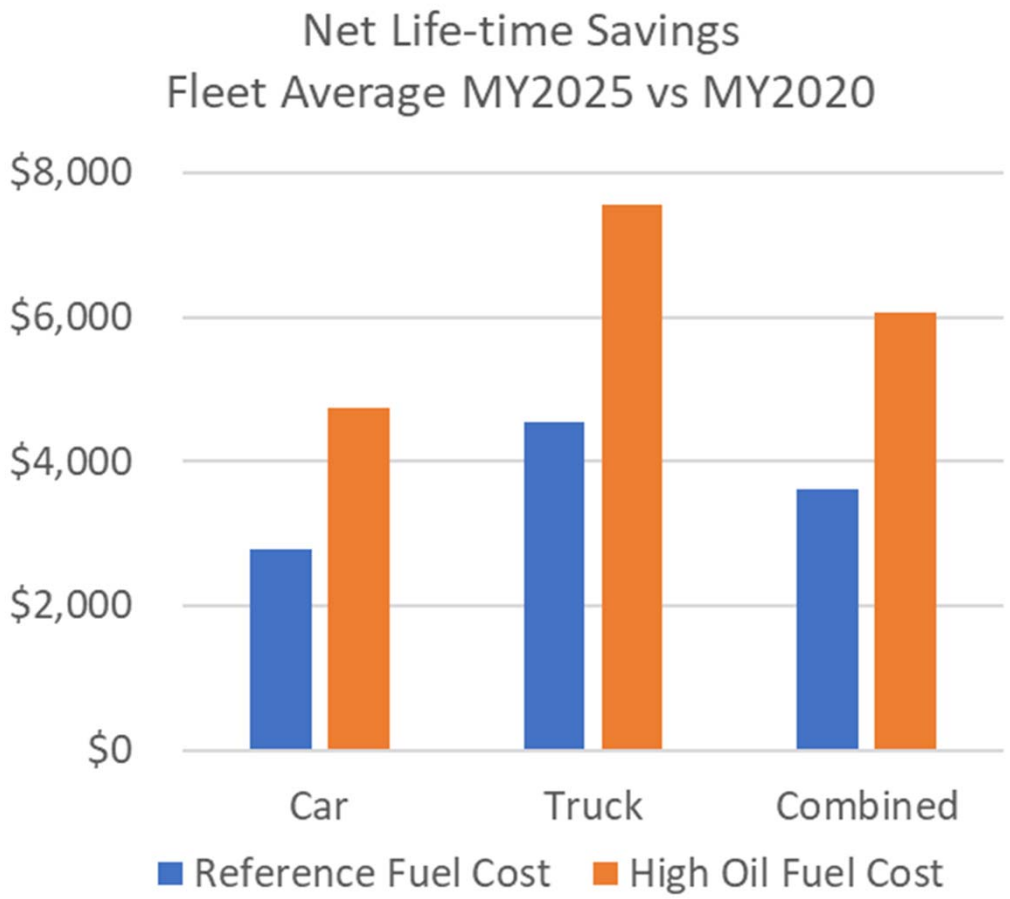
[2] *Based on gasoline price projections from U.S. Energy Information Administration. Reference Case price averages $3.16/gal, High Oil Price Case price averages $4.84/gallon between 2025 and 2031 (constant 2018 dollars)*

[3] *6-year savings does not include potential increase in 6-year resale value due to higher fuel economy.*

Life-time Savings for MY2025 Clean Car Vehicles

Over their entire life (typically multiple owners) cars on average travel over 184,000 miles and light trucks travel more than 214,000 miles.

Compared to MY2020 vehicles, over their life-time MY2025 cars could save up to $4,700 and MY2025 trucks could save up to $7,500, depending on fuel costs.



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Families in Some Low Income States Could Save the Most

- Family savings will vary based on how many cars they own, how much they drive, and how expensive gasoline is
- Families in some of the states with lowest median income on average own more cars and drive more miles than people in wealthier states – the average family in these states will suffer more from rising gas prices, and will save the most from more stringent climate pollution and fuel economy standards
- Examples of states with lower than average median income and higher than average family savings:
  - ✓ Alabama
  - ✓ Maine
  - ✓ Mississippi
  - ✓ New Mexico
  - ✓ North Carolina
  - ✓ Tennessee

Annual Savings for Average Alabama Family

The average Alabama family owns 2.5 cars and drives 34,575 miles per year.

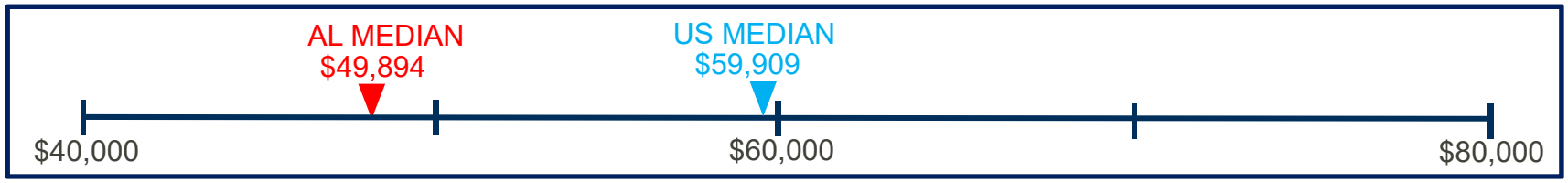
For this family *net savings* from MY2025 U.S. climate pollution and fuel economy standards could be *over $700/year* and *over $4,300* during the time they own MY2025 vehicles, depending on fuel costs (High Oil Price)

Annual family savings will increase by $127 for every $0.50/gallon increase in gasoline prices

Net Savings AVERAGE AL FAMILY (2018$)	Reference	High Oil Price
One Year	$313	$705
6 Years [1] *Typical time a family owns a car*	$1,875	$4,323

Fuel costs in Alabama are 92% of the US average

HOUSEHOLD INCOME



AVERAGE FAMILY ANNUAL SAVINGS FROM MY2025 CAFE STANDARDS (REF CASE)

[1] *Does not include potential increase in 6-year resale value due to higher fuel economy*

Annual Savings for Average Maine Family

The average Maine family owns 1.8 cars and drives 24,161 miles per year.

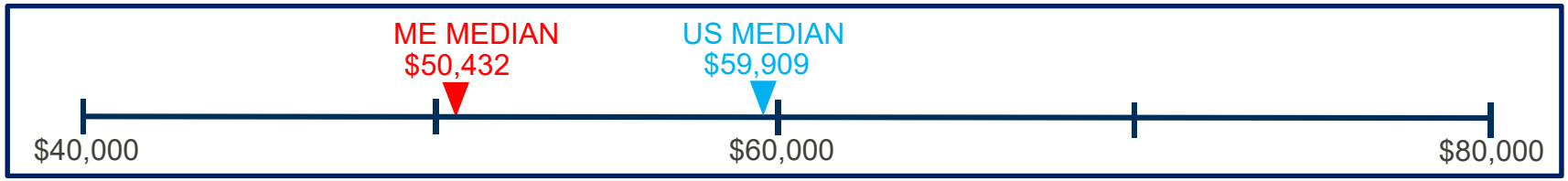
For this family *net savings* from MY2025 U.S. climate pollution and fuel economy standards could be *almost $600/year* and *over $3,500* during the time they own MY2025 vehicles, depending on fuel costs (High Oil Price)

Annual family savings will increase by $89 for every $0.50/gallon increase in gasoline prices

Net Savings AVERAGE ME FAMILY (2018$)	Reference	High Oil Price
One Year	$282	$591
6 Years [1] *Typical time a family owns a car*	$1,689	$3,547

Fuel costs in Maine are 104% of the US average

HOUSEHOLD INCOME



AVERAGE FAMILY ANNUAL SAVINGS FROM MY2025 CAFE STANDARDS (REF CASE)

[1] *Does not include potential increase in 6-year resale value due to higher fuel economy*

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Annual Savings for Average Mississippi Family

The average **Mississippi** family owns 1.8 cars and drives 33,646 miles per year.

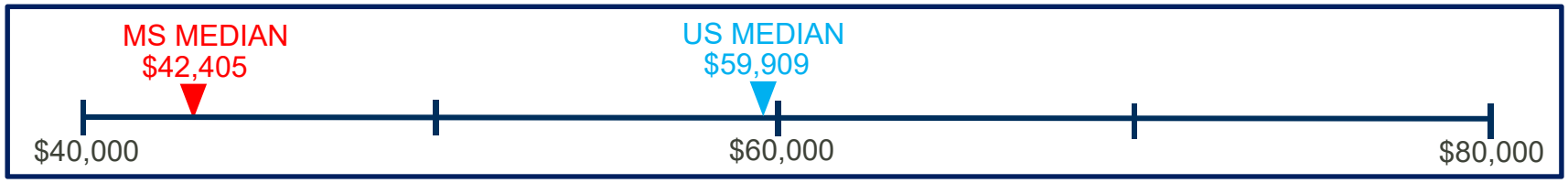
For this family *net savings* from MY2025 U.S. climate pollution and fuel economy standards could be *over $800/year* and *over $4,800* during the time they own MY2025 vehicles, depending on fuel costs (High Oil Price)

Annual family savings will increase by $124 for every $0.50/gallon increase in gasoline prices

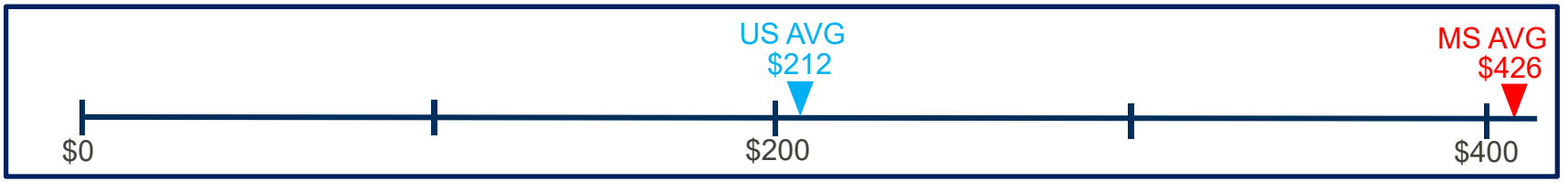
Net Savings AVERAGE MS FAMILY (2018$)	Reference	High Oil Price
One Year	$426	$808
6 Years [1] *Typical time a family owns a car*	$2,554	$4,847

Fuel costs in Mississippi are 92% of the US average

HOUSEHOLD INCOME



AVERAGE FAMILY ANNUAL SAVINGS FROM MY2025 CAFE STANDARDS (REF CASE)



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[1] *Does not include potential increase in 6-year resale value due to higher fuel economy*

Annual Savings for Average New Mexico Family

The average New Mexico family owns 2.1 cars and drives 34,991 miles per year.

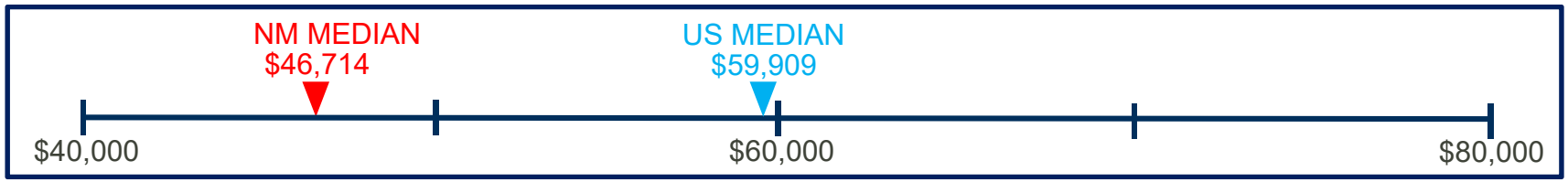
For this family *net savings* from MY2025 U.S. climate pollution and fuel economy standards could be *over $800/year* and *almost $5,000* during the time they own MY2025 vehicles, depending on fuel costs (High Oil Price)

Annual family savings will increase by $129 for every $0.50/gallon increase in gasoline prices

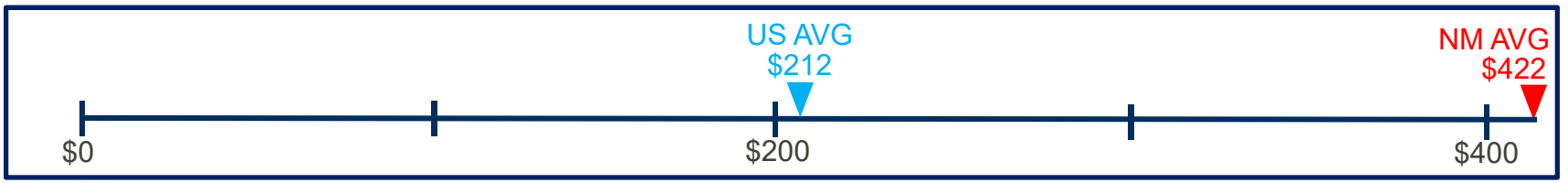
Net Savings AVERAGE NM FAMILY (2018$)	Reference	High Oil Price
One Year	$422	$832
6 Years [1] *Typical time a family owns a car*	$2,534	$4,992

Fuel costs in New Mexico are 95% of the US average

HOUSEHOLD INCOME



AVERAGE FAMILY ANNUAL SAVINGS FROM MY2025 CAFE STANDARDS (REF CASE)



[1] *Does not include potential increase in 6-year resale value due to higher fuel economy*

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Annual Savings for Average North Carolina Family

The average North Carolina family owns 1.9 cars and drives 27,940 miles per year.

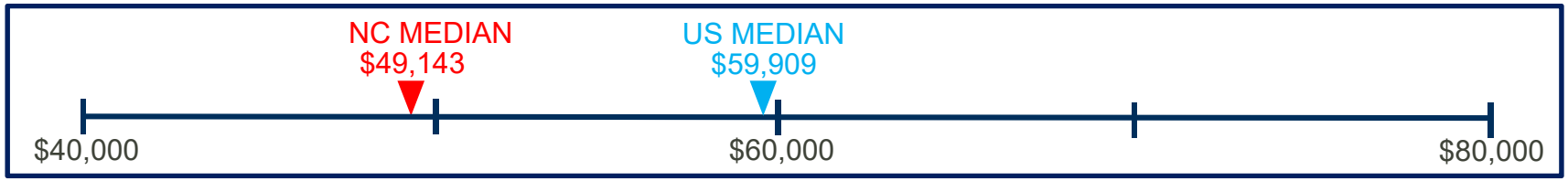
For this family *net savings* from MY2025 U.S. climate pollution and fuel economy standards could be *over $660/year* and *almost $4,000* during the time they own MY2025 vehicles, depending on fuel costs (High Oil Price)

Annual family savings will increase by $103 for every $0.50/gallon increase in gasoline prices

Net Savings AVERAGE NC FAMILY (2018$)	Reference	High Oil Price
One Year	$319	$662
6 Years [1] *Typical time a family owns a car*	$1,917	$3,973

Fuel costs in North Carolina are 100% of the US average

HOUSEHOLD INCOME



AVERAGE FAMILY ANNUAL SAVINGS FROM MY2025 CAFE STANDARDS (REF CASE)

[1] *Does not include potential increase in 6-year resale value due to higher fuel economy*

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Annual Savings for Average Tennessee Family

The average Tennessee family owns 2.1 cars and drives 29,331 miles per year.

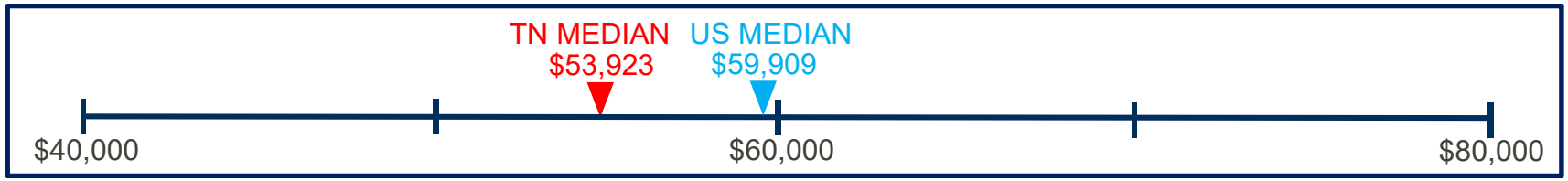
For this family *net savings* from MY2025 U.S. climate pollution and fuel economy standards could be *over $600/year* and *over $3,600* during the time they own MY2025 vehicles, depending on fuel costs (High Oil Price)

Annual family savings will increase by $108 for every $0.50/gallon increase in gasoline prices

Net Savings AVERAGE TN FAMILY (2018$)	Reference	High Oil Price
One Year	$273	$606
6 Years [1] *Typical time a family owns a car*	$1,636	$3,635

Fuel costs in Tennessee are 92% of the US average

HOUSEHOLD INCOME



AVERAGE FAMILY ANNUAL SAVINGS FROM MY2025 CAFE STANDARDS (REF CASE)

[1] *Does not include potential increase in 6-year resale value due to higher fuel economy*

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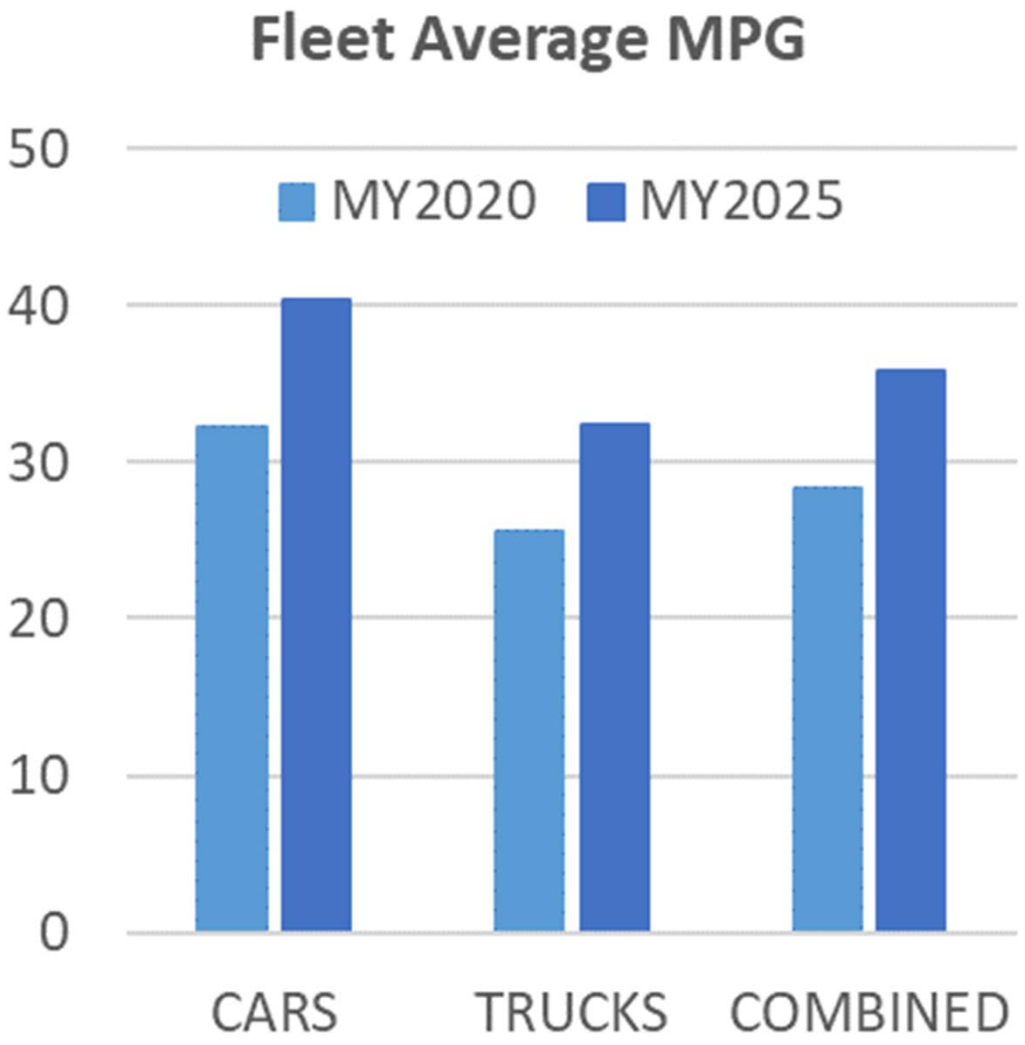
APPENDIX

REFERENCES

Metric	Data Sources & Methodology
Incremental Vehicle Purchase Costs	• EPA's OMEGA model was used to calculate fleet average incremental costs, for vehicles meeting MY2020 and MY2025 CAFE standards, compared to MY2015 vehicles • OMEGA technology cost input assumptions were taken from the ICCT report: *"Efficiency Technology and Cost Assessment for U.S. 2020-2025 Light-Duty Vehicles",* March 2017
Incremental Vehicle Ownership Costs	• Incremental vehicle purchase costs were increased by 5.46% (sales tax) and the incremental monthly loan payment was calculated assuming a 72 month new car loan at 4.25% annual interest rate. Incremental annual insurance costs of 1.8% of incremental purchase price were added to the incremental loan payment.
Vehicle Fuel Economy	• OMEGA results for fleet average CO_2 emissions (g/mi) were converted to gallons/mi and miles/gallon (MPG) assuming 8,788 g/gallon of CO_2. These MPG values, which represent CAFE compliance levels, were multiplied by 80%, to estimate "real world" fuel economy of compliant vehicles, consistent with EPA/NHTSA test data.
Fuel Costs	• Energy Information Administration, *Annual Energy Outlook 2019*, Table 3, Energy Costs by Sector and Source, Transportation – Motor Gasoline; Reference Case and High Oil Cost Case • For state-level analyses, regional fuel costs from Tables 3.1 – 3.9 were used to calculate state fuel costs ($/gal) relative to US average fuel costs, for both the reference case and high oil price cases
Vehicle Usage	• US-average and state-average annual miles per vehicle, and vehicles per household, were calculated based on U.S. Federal Highway Administration data on vehicles by state (Table MV-1, 2017) and vehicle miles by state (Table VM-2, 2017) and U.S. Census Bureau data on the number of households by state (occupied housing units, 2017) • Life-time mileage per vehicle is assumed to be 184,789 miles for cars, and 214,997 miles for light trucks, consistent with assumptions used by EPA and NHTSA

Projected Fleet Average Fuel Economy (MPG)

Current CAFE standards



- Based on EPA's OMEGA model
- This represents expected "real world" fuel economy (EPA window sticker), which is 20% lower than fuel economy measured during CAFE compliance testing

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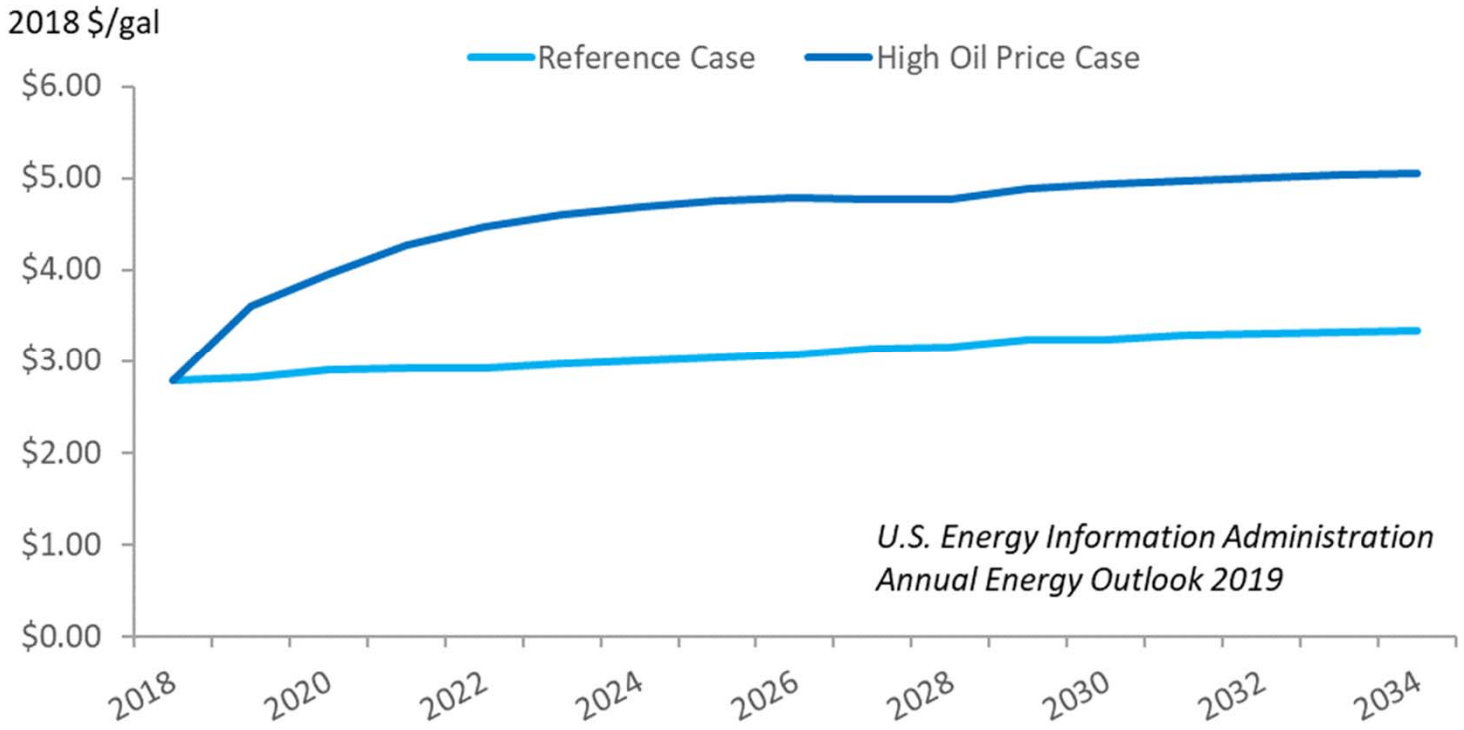
Gasoline Price Projections



This chart shows projected prices in constant 2018 dollars, without inflation. Nominal gasoline prices (including inflation) are projected to reach $4.84/gallon in 2034 under the Reference case, and $8.95/gallon under the High Oil Price case

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