# MONEY FROM THIN AIR

## THE HIDDEN BENEFITS OF PROPER TIRE INFLATION — A REPORT BY FIRESTONE COMPLETE AUTO CARE

# AIR IS MONEY

Firestone Complete Auto Care has been servicing the vehicles of Americans for almost 100 years.

This year, our experts documented all the missing pounds per square inch (PSI) our customers' tires needed from June 2024 to March 2025 and found that out of the 9.7M cars we serviced, 4M of them had underinflated tires.[1]

That equates to an extra $18.6B+[4] spent on gasoline every year by U.S. motorists. With summer road trip season kicking off for American drivers, we want them to keep more money in their wallets by properly inflating their tires.

**42%**

OF AMERICANS ARE DRIVING ON UNDERINFLATED TIRES[2]

**4.5B+**

EXTRA GALLONS OF GASOLINE ARE BURNED IN A YEAR IN THE U.S.[3]

**$18.6B+**

TOTAL AMERICANS COULD SAVE IN GAS EVERY YEAR[4]

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[1,2,3,4] *See appendix for details.*

# HOW LOW DID WE GO?

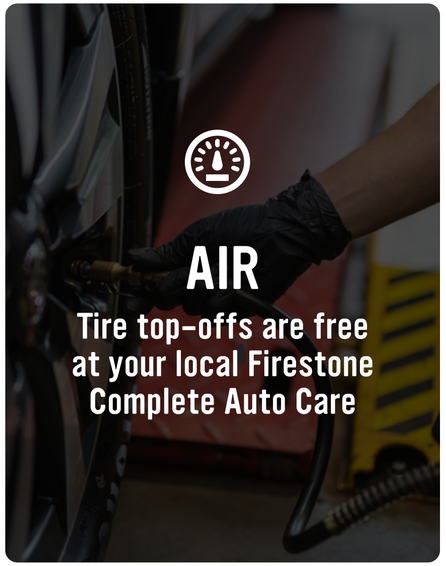
Firestone found that the average tire pressure per vehicle was about **13 PSI under** what it should be. What does that mean for the average driver? Driving around on tires that are not full can create more drag or rolling resistance, which could mean burning an **extra 17 gallons of gas**—roughly one full tank—in a year.

THE AVERAGE TIRE PRESSURE IS 13 PSI UNDERINFLATED[5]

17 EXTRA GALLONS OF GAS BURNED PER YEAR[5]

## GET MORE FROM AIR

Fill up your tires every month, and you'll optimize your fuel efficiency with big results:

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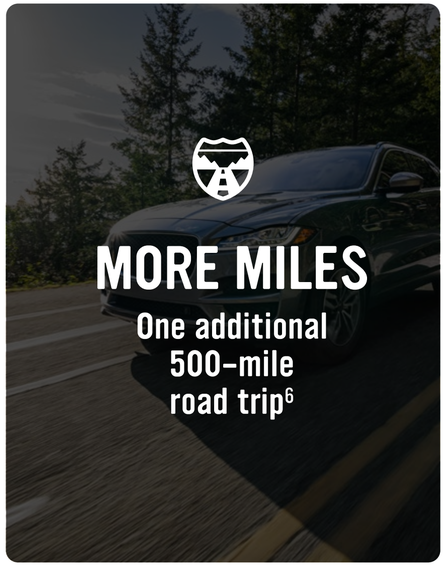
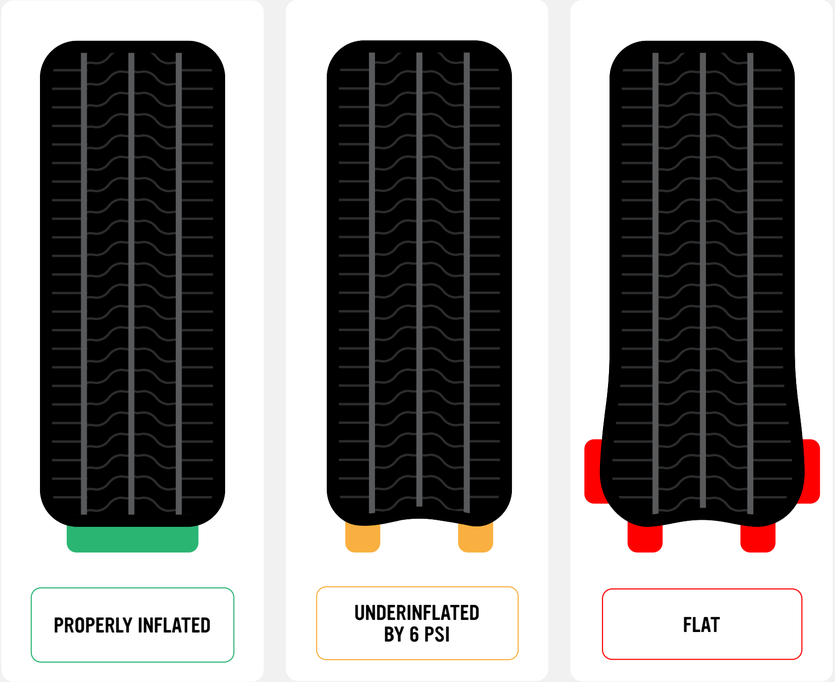



## TIRE PRESSURE GUIDE

How to spot an underinflated tire




### HOW TO PROPERLY CHECK YOUR TIRE PRESSURE

Check the sticker located on the driver's side door jamb for your vehicle's recommended tire pressure. Or find it in your owner's manual. Then use a reliable tire pressure gauge to measure the pressure when your tires are cold. Finally, inflate or deflate as needed to match the recommended PSI. Avoid checking the pressure of warm tires.

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[5,6] *See appendix for details.*

# AM-AIR-ICA BY THE NUMBERS

When it comes to air, some regions' vehicles seem to need more than others. Add it all up, and as a country we use about **4.5B gallons of gas more**[7] than we need due to underinflated tires.

| PUMPED UP* | VEHICLES THAT NEED AIR |
|---|---|
| New Hampshire | 18% |
| Rhode Island | 22% |
| Montana | 24% |

| DEFLATED* | VEHICLES THAT NEED AIR |
|---|---|
| District of Columbia | 72% |
| Hawaii | 61% |
| California | 57% |

*See appendix for details on calculation
**Firestone Complete Auto Care does not operate in Alaska, Utah, Maine or Vermont

## WEST**

VEHICLES THAT NEEDED AIR: 49%

EXTRA GALLONS OF GAS USED: 1B

## MIDWEST

VEHICLES THAT NEEDED AIR: 40%

EXTRA GALLONS OF GAS USED: 1.1B

## SOUTH

VEHICLES THAT NEEDED AIR: 42%

EXTRA GALLONS OF GAS USED: 1.8B

## NORTHEAST**

VEHICLES THAT NEEDED AIR: 28%

EXTRA GALLONS OF GAS USED: 577M

## MOST OFTEN UNDERINFLATED TIRES

Whether it's thrill seekers or busy parents, the car types that usually needed air were sports cars and minivans. And driving with tires that are underinflated is risky for both – it could result in decreased handling, increased stopping distance and potential tire blowouts.[8]

| VEHICLE TYPE | % THAT NEEDED AIR | AVG. PSI ADDED |
|---|---|---|
| Sports Car | 45% | 13 |
| Minivan | 45% | 12 |
| Sedan | 43% | 12 |
| Station Wagon | 43% | 12 |
| SUV | 43% | 12 |
| Van | 42% | 20 |
| Compact | 42% | 12 |
| Pickup Truck | 38% | 13 |

## SERIOUSLY UNDERINFLATED

Some vehicle makes* tend to need more air added to their tires than others. Here are the top ten brands, across vehicle types, that visited our stores with the most PSI missing from their tires.[9]

*Based on a sample size of more than 10,000 vehicles.

| CARMAKER | % THAT NEEDED AIR | AVG. PSI ADDED |
|---|---|---|
| Tesla | 47% | 15 |
| Mazda | 45% | 13 |
| Mercedes-Benz | 45% | 16 |
| Volkswagen | 44% | 15 |
| Kia | 44% | 15 |
| Scion | 44% | 15 |
| Buick | 44% | 15 |
| Land Rover | 44% | 15 |
| Hyundai | 43% | 15 |
| Volvo | 43% | 15 |

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[7,8,9] *See appendix for details.*

# AIR ALSO HELPS KEEP YOU SAFE ON THE ROAD...

Driving with low tire pressure can affect your braking distances and cause your steering and handling to be less responsive. This can be especially dangerous if an emergency stop or sudden evasive maneuver is needed to avoid a collision.

Underinflation may also lead to excessive sidewall flexing, generating heat and potentially weakening the tire structure, which could lead to a tire blowout.

So keep those tires properly inflated to help extend their life and keep you safe on the road.

# ...AND IT HELPS THE ENVIRONMENT TOO.[10]

Because if we all kept our tires properly inflated, we could notably reduce our carbon emissions.

4.5B+ gallons of extra gasoline burned is approximately equivalent to carbon sequestered by:

**670M+**
TREE SEEDLINGS GROWN FOR 10 YEARS[10]

**40M+**
ACRES OF U.S. FORESTS IN ONE YEAR[10]

**2M+**
GARBAGE TRUCKS OF WASTE RECYCLED INSTEAD OF LANDFILLED[10]

**12K+**
WIND TURBINES RUNNING FOR A YEAR[10]

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[10] *See appendix for details.*

# AIR IS MONEY

When it comes to properly inflating your tires, there's money in the air. Americans spent an extra $18B+ in gasoline because of underinflated tires. Here's what that means:

## $68/yr

Amount the average driver spent on extra gasoline. In states with higher gas prices, it can be almost **$91/yr per vehicle.**[11]

## $125/yr

Properly inflated tires could have saved the average household $10.41 per month—that's **48 cookies, 2 pizza slices or 6 pairs of socks every month.**[11]

## 4,700 miles

Properly inflated tires could help extend the average life of a tire by **4,700 miles.**[11]

# EASY MONEY

The extra cash would buy a lot of road trip snacks. Here's what a family could get with **$125** next time they hit the road:[12]

**583**
cookies[12]

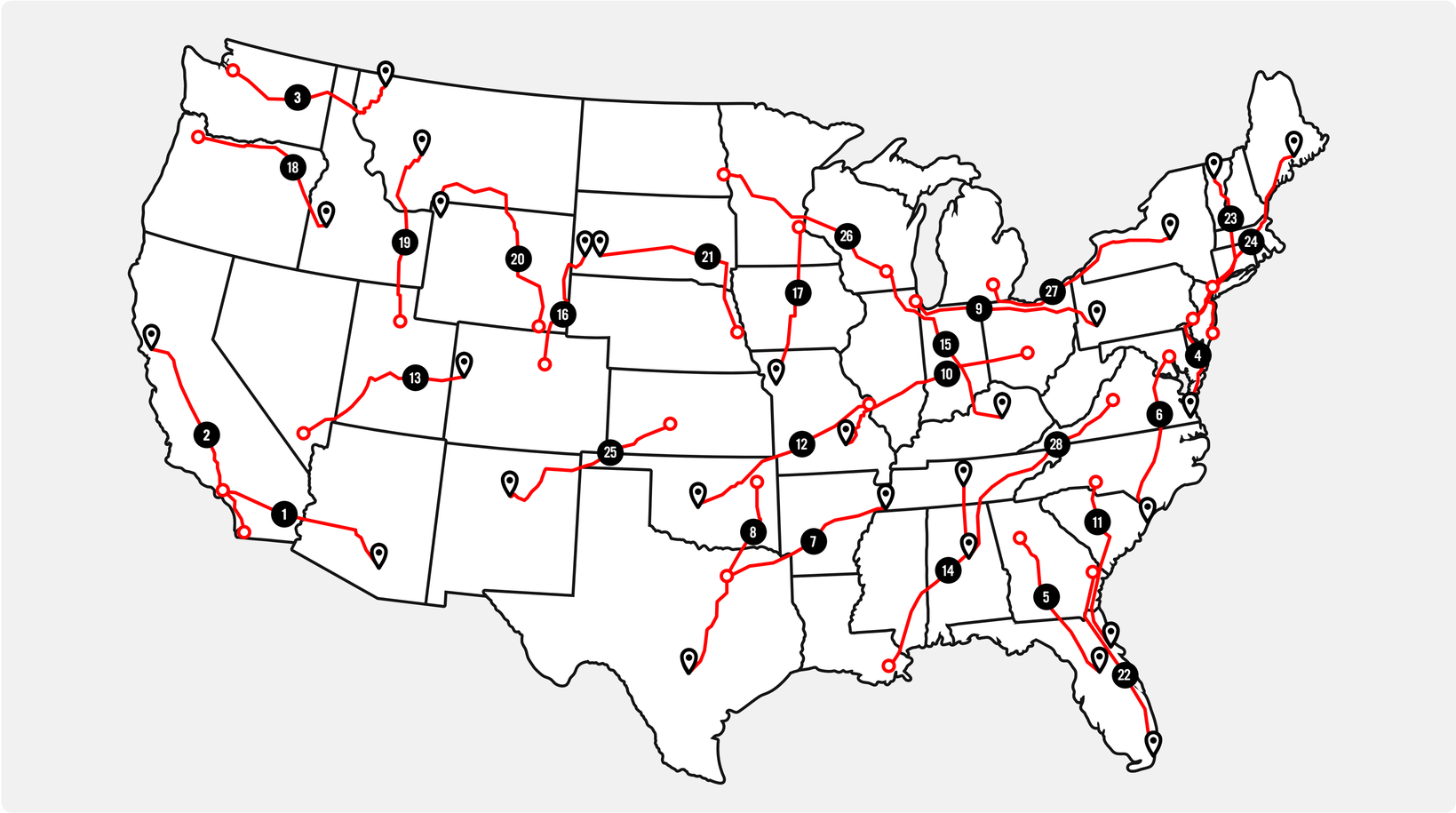
**19**
family-sized bags of potato chips[12]

**218**
cans of soda[12]

# HERE'S WHERE YOU CAN GO

A good road trip is even better when it's practically free. By having properly inflated tires, on average drivers could save enough gas to take an extra 500-mile road trip every year. Here are some of the places they could travel to:[13]

1. Los Angeles → Tucson
2. San Diego → San Francisco
3. Seattle → Glacier National Park
4. New York City → Virginia Beach
5. Atlanta → Orlando
6. Baltimore → Myrtle Beach
7. Dallas → Memphis
8. Tulsa → San Antonio
9. Chicago → Pittsburgh
10. Columbus → Mark Twain Nat'l Forest
11. Charlotte → Daytona Beach
12. St. Louis → Oklahoma City
13. Las Vegas → Grand Junction
14. New Orleans → Nashville
15. Madison → Lexington
16. Denver → Mount Rushmore
17. Minneapolis → Kansas City
18. Portland → Boise
19. Salt Lake City → Helena
20. Cheyenne → Yellowstone Nat'l Park
21. Omaha → Badlands National Park
22. Savannah → Miami
23. Atlantic City → Stowe
24. Philadelphia → Bangor
25. Dodge City → Santa Fe
26. Fargo → Madison
27. Ann Arbor → Syracuse
28. Roanoke → Birmingham



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[11,12,13] *See appendix for details.*

# AIR PUMP PERSONALITY TEST

Take the quiz and find out if you're more or less likely to have the right tire pressure.

## START HERE

### QUESTION 1 (Q1)

How often should you check your tire pressure?

- Every month — GO TO: QUESTION 2 (Q2)
- Before a long road trip — GO TO: QUESTION 2 (Q2)
- When my TPMS light turns on — GO TO: QUESTION 3 (Q3)
- Tires? What tires? — GO TO: THE UNDERINFLATOR

### QUESTION 2 (Q2)

When is the ideal time to check your tire pressure?

- After sitting for 3+ hours — GO TO: QUESTION 3 (Q3)
- After driving at least a mile — GO TO: QUESTION 3 (Q3)
- When I stop driving — GO TO: QUESTION 3 (Q3)
- Anytime — GO TO: THE UNDERINFLATOR

### QUESTION 3 (Q3)

What are signs of underinflated tires?

- Bulging tires — GO TO: THE OCCASIONAL INFLATOR
- Uneven tire wear — GO TO: THE TMPS WATCHER
- All of these — GO TO: THE TIRE PRESSURE PRO
- None of these — GO TO: THE UNDERINFLATOR

## ANSWERS

### THE TIRE PRESSURE PRO

Your PSI game is strong. And your tires are thankful for it.

### THE OCCASIONAL INFLATOR

You're so close to being a pro. Remember to check your tires every month.

### THE TPMS WATCHER

Your tires could use some major air.

### THE UNDERINFLATOR

There's still hope for your tires. But act soon. As in, very soon.

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# FREE AIR TOP-OFFS AT FIRESTONE

Before you take your summer road trip this year, make sure you stop by a Firestone Complete Auto Care for a free tire pressure check.* We'll help you save some money and hit the road safely this summer.

**VISIT:**
FIRESTONEAUTO.COM/AIR-IS-MONEY

**No purchase necessary*

# APPENDIX

## AIR IS MONEY

### [1] "Out of 9.7 million cars we surveyed, 4 million of them were underinflated."

- **SOURCE**: Firestone Complete Auto Care first-party (FCAC 1p) data from June 1, 2024, to March 2, 2025, excluding Alaska, Maine, Utah, and Vermont, as FCAC does not have service centers in these states.

### [2] "42% of Americans are driving on underinflated tires."

- **SOURCE**: FCAC 1p data
- **EQUATION**: 4,030,986 Vehicles With Air Pumped by FCAC divided by the number of 9,687,710 Total Vehicles Seen at FCAC equating to 42% of Vehicles Needing Air
- **DATA CAVEATS**: Our dataset excludes states with no FCAC presence (Alaska, Maine, Utah, Vermont). The 9.7M vehicles in our dataset represent 3.5% of the 278M privately owned automobile vehicles (DOT FHWA 2023 Highway Statistics Series study)

### [3] "4.5+ EXTRA GALLONS OF GASOLINE ARE BURNED IN A YEAR IN THE U.S."

- **SOURCES**: Department of Transportation Federal Highway Administration 2023 Highway Statistics Series (DOT FHWA 2023 HSS), Department of Transportation National Highway Traffic Safety Administration "Evaluation of the Effectiveness of TPMS in Proper Tire Pressure Maintenance" (DOT NHTSA report), FCAC 1p
- **EQUATION**: 16.69 Average Gallons Wasted Per Vehicle multiplied by 273,486,407 Total Data Set Vehicles
- **EQUATION EXPLANATION**:
  - **Average Gallons Wasted Per Vehicle** (see Footnote 4)
  - **Total Data Set Vehicles** is the sum of the states with an FCAC presence from the privately owned vehicles reported by the DOT FWHA report (273M)

### [4] "...equates to an extra $18.6B+ spent...in gasoline."

- **SOURCES**: Bureau of Labor Statistics March 2025 unleaded premium per gallon (BLS), DOT NHTSA report, DOT FHWA 2023 HSS, FCAC 1p
- **EQUATION**: 273,486,407 Total Data Set Vehicles (DOT FHWA 2023 HSSS) multiplied by 16.69 Average Gallons Wasted Per Vehicle (DOT FHWA 2023 HSSS) multiplied by $4.08 Average Gas Price (BLS)
- **EQUATION EXPLANATION**:
  - **Total Annual Automobile Gasoline Per State** is a state-by-state calculation of monthly gasoline reported by states (DOT FHWA 2023 HSSS) subtracted by non-highway use of gasoline (DOT FHWA 2023 HSSS). Note: Subtracting the non-highway use of gasoline provides a more accurate representation of gasoline used on highways.
  - **Average Annual Gasoline Used Per Vehicle** is calculated by dividing the Total Annual Automobile Gasoline Per State by the number of Driver's Licenses Per State (DOT FHWA 2023 HSS), weighted by the number of Registered Vehicles Per State (DOT FHWA 2023 HSS). The result is 605.49 Average Annual Gallons of Gasoline Used Per Vehicle.
  - **Average Gas Price** Average price of unleaded premium per gallon/3.785 liters in U.S. cities, not seasonally adjusted (Bureau of Labor Statistics March 2025), is $4.085.
  - **Fuel Efficiency Lost** for each PSI missing in a tire is 0.22% (DOT NHTSA Tire Pressure Maintenance report)
  - **Average PSI**, calculated as the Sum of the Pressure of Air Added to Vehicles divided by the Number of Vehicles Needing Air. The result is 12.53 PSI.
  - **Average Gallons Wasted Per Vehicle** is calculated by multiplying 605.49 Average Annual Gallons of Gasoline Used Per Vehicle by 0.22% Fuel Efficiency Lost by 12.53 Average PSI. The result is 16.69 Average Gallons Wasted Per Vehicle.

## HOW LOW DID WE GO?

### [5] "On average, drivers are 13 PSI under what they should be, which means on average they are wasting 17 gallons per year."

- **SOURCES**: DOT NHTSA report, DOT FHWA 2023 HSS, FCAC 1p
- **EQUATION**: See Average PSI and Average Gallons Wasted Per Vehicle in Footnote 4 equation explanation

### [6] GET MORE FROM AIR

- For tank "see avg gallons wasted per vehicle" and "extra milage" in Footnote 13

| REGION | NUMBER OF CARS SERVICED | CARS HAD AIR PUMPED | AMOUNT OF AIR PUMPED | PSI | % NEEDED AIR | FUEL LOST | # OF VEHICLES IN AREA *EXCLUDING AK, ME, UT, VT* | GALLONS OF GASOLINE WASTED |
|---|---|---|---|---|---|---|---|---|
| Midwest | 1,757,136 | 706,696 | 8,953,114 | 12.67 | 40% | 16.88 | 63,976,063 | 1,079,664,061 |
| Northeast | 1,063,252 | 302,597 | 3,658,581 | 12.09 | 28% | 16.11 | 35,846,629 | 577,332,539 |
| South | 5,324,084 | 2,262,529 | 28,650,511 | 12.66 | 42% | 16.87 | 109,708,811 | 1,850,586,467 |
| West | 1,543,238 | 759,164 | 9,246,580 | 12.18 | 49% | 16.22 | 63,954,905 | 1,037,645,573 |

### [7] AM-AIR-ICA BY THE NUMBERS

- **SOURCES**: FCAC 1p
- **EQUATION EXPLANATION**: Both the Percentage of Vehicles Needing Air and the Average Gallons Wasted Per Vehicle use the same calculation formula but are split by region and state.

### [8] MOST OFTEN UNDERINFLATED TIRES

- **SOURCES**: Department of Energy's 2025 Datasets for All Model Years (DOE 2025), FCAC 1p
- **EQUATION EXPLANATION**: Both the Percentage of Vehicles Needing Air and the Average PSI use the same calculation formula but are split by DOE 2025's Vehicle Type classification

### [9] SERIOUSLY UNDERINFLATED

- **SOURCES**: FCAC 1p
- **EQUATION EXPLANATION**: Both the Percentage of Vehicles Needing Air and the Average PSI use the same calculation formula but are split by FCAC 1p data's Car Maker classification

### [10] "Air also helps keep you safe on the road...and it helps the environment too."

- **SOURCE**: US Environmental Protection Agency Greenhouse Gas Equivalencies Calculator: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator
- **EQUATION EXPLANATION**: 1 gallon of gasoline equates to 0.009 metric tons of carbon dioxide. Our input of wasted gallons is 4,564,488,132.83.

# APPENDIX *(CONT.)*

## [11] AIR IS MONEY

- **SOURCES**: BLS, DOT NHTSA report, DOT FHWA 2023 HSS, FCAC 1p
- **EQUATION**: $4.08 Average Gas Price multiplied by 16.69 Average Gallons Wasted Per Vehicle

**"$125/yr Amount each family spent on extra gasoline"**

- **SOURCES**: Department of Transportation Federal Highway Administration 2022 National Household Travel Survey (NHTS 2022), BLS, DOT NHTSA report, DOT FHWA 2023 HSS, FCAC 1p
- **EQUATION**: 1.83 Vehicles per HH multiplied by $4.08 Average Gas Price multiplied by 16.69 Average Gallons Wasted Per Vehicle results in $125 Average Family Savings
- **EXPLANATION**: Vehicles per HH is the weighted average number of personal vehicles per household (reflecting the national non-group quartered population) (NHTS...)

**"$91/yr per vehicle."**

- **SOURCES**: BLS, DOT NHTSA report, DOT FHWA 2023 HSS, FCAC 1p
- **EQUATION**: Based on each state's Average Gallons Wasted Per Vehicle multiplied by the Average Gas Price

**"4,700 miles"**

- **SOURCES**: National Highway Traffic Safety Administration report, "NHTSA Tire-Related Surveys: Results and Implications" November 2024

## [12] EASY MONEY

- **SOURCE**: Bureau of Labor and Statistics Consumer Price Index Databases, Average Price Data for March 2025 (BLS CPI 2025), NHTS 2022
- **EQUATIONS**: Number of each item is calculated by dividing Average Family Savings by Cost per Item
- **EQUATION EXPLANATION**:
  - **Average Cookie Price** is based on the March 2025 BLS CPI price of $4.86 per lb (Cookie Price Per Lb). The average cookie weighs 20g (Average Cookie Weight). Pound in grams is divided by Average Cookie Weight multiplied by Average Family Savings and divided by Cookie Price Per Lb.
  - **Potato Chip Price** is based on the March 2025 BLS CPI price of $6.53 per 16 oz bag (Chip Price Per 16 Oz Bag). Average Family Savings is divided by Chip Price Per 16 Oz Bag.
  - **Can of Soda Price** is based on the March 2025 BLS CPI price of $0.583 per can (Can Price). Average Family Savings is divided by Can Price.

## [13] HERE'S WHERE YOU CAN GO

**"Across vehicle classes, on average, you could have driven an extra 505 miles a year."**

- **SOURCES**: DOT NHTSA report, DOT FHWA 2023 HSS, FCAC 1p, DOE 2025
- **EQUATION**: 18.4 Average Wasted Gallons by Vehicle Type multiplied by 27.83 Average MPG results in 512.03 miles
- **EQUATION EXPLANATION**:
  - **Vehicle Set** omits vehicles older than 2008 and excludes all RVs, trailers, hitches, motorcycles, semitrucks, and ATVs.
  - **Average MPG** only uses the vehicles in Vehicle Set and is calculated by averaging the rounded highway MPG by Vehicle Type classification (DOE 2025), resulting in 27.83 Average MPG
  - **Average Gallons Wasted Per Vehicle by Vehicle Type** is the same formula as Average Gallons Wasted Per Vehicle; however, it uses the DOE 2025 to split the data by Vehicle Type, resulting in 18.4 Average Gallons Wasted Per Vehicle by Vehicle Type