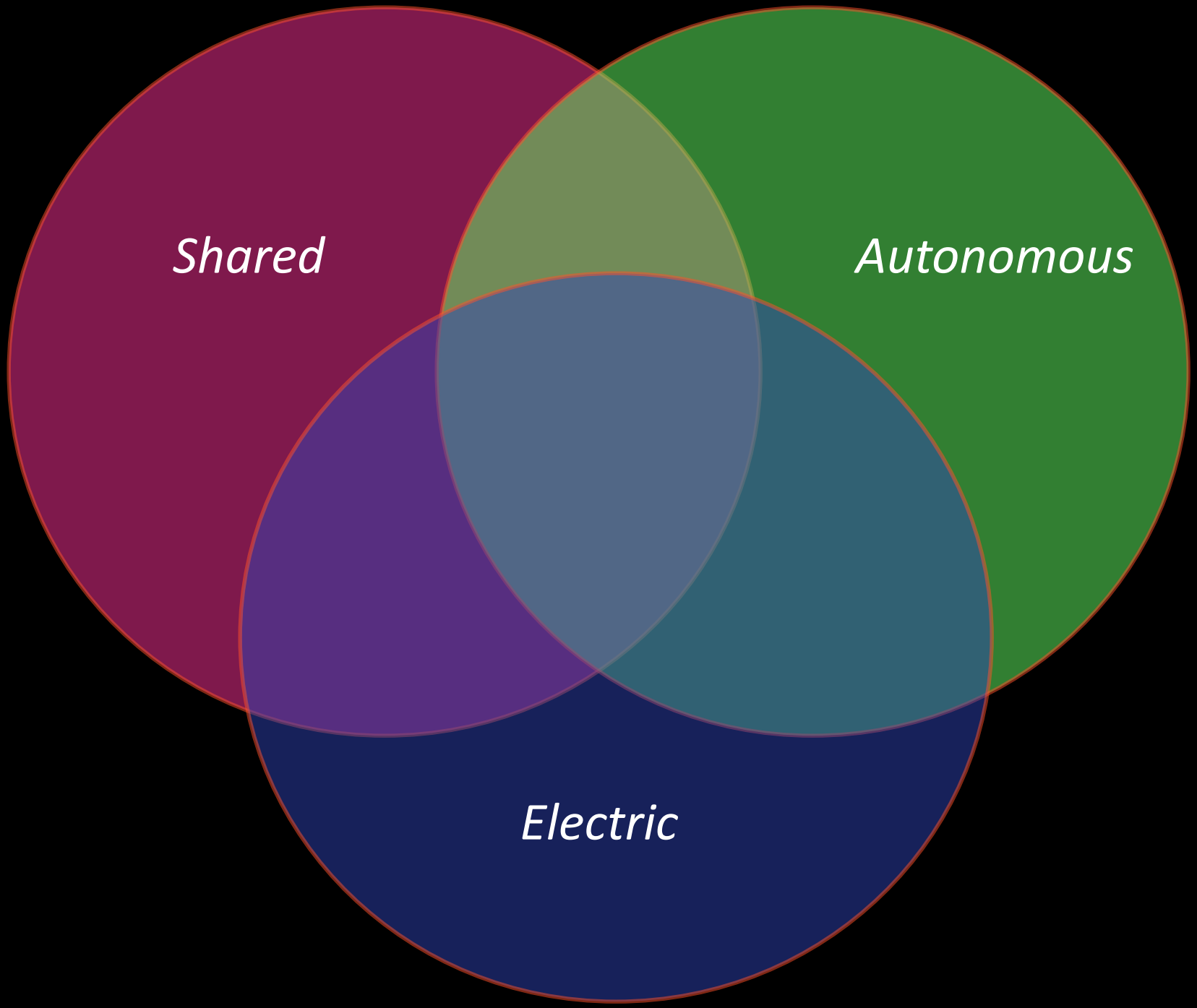

Union of
Concerned Scientists
ONLY


Shared
Autonomous
Electric

Shared Vehicle Economy


CAR
2GO


zipcar


UBER


lyft


VIA

Car sharing grew by 34 percent last year and the industry has **a projected revenue of more than $16.5 billion by 2024**. *~Global Market Insights, Inc., 2017*

Lyft gave over 200 million rides in 2016. *~Salt Lake Tribune, 2017*

Uber provided over 2 billion rides in 2016, up from 140 million in 2014. *~Forbes, 2016*

$10.1 billion

$1.5 billion

$250 million

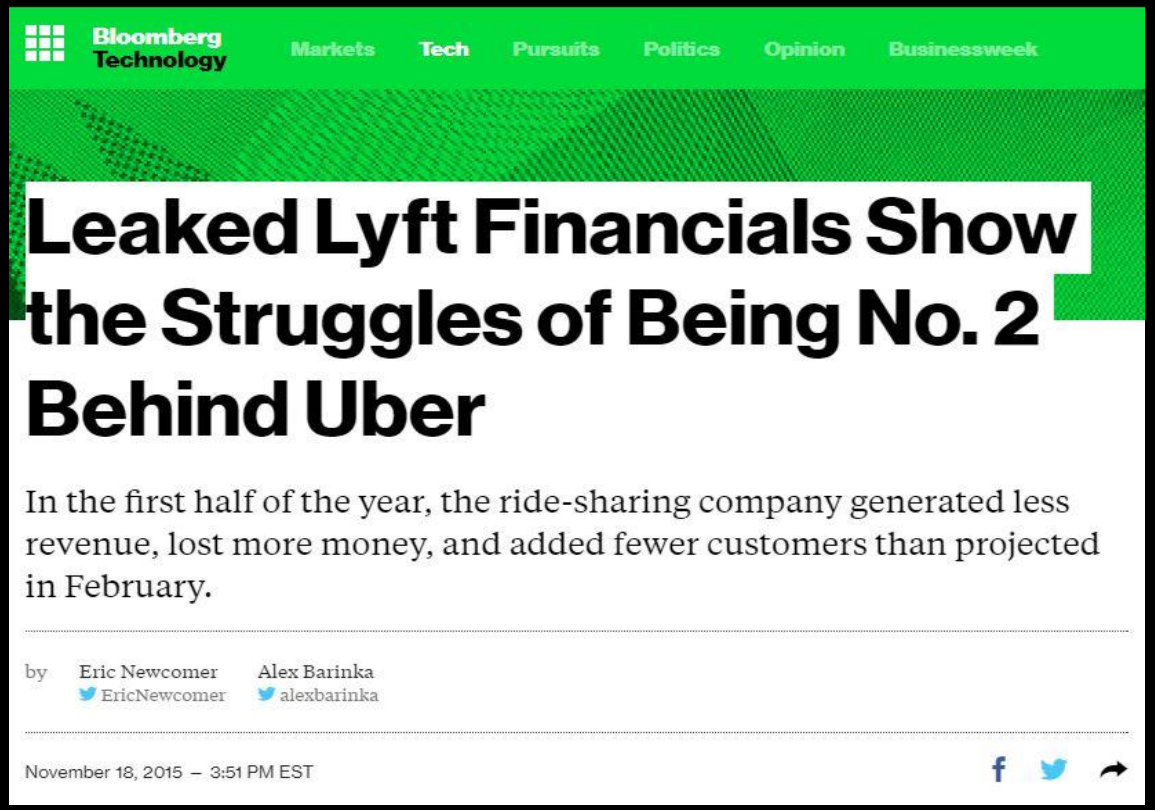
Lyft Loses $600 Million in 2016 as Revenue Surges

U.S. ride-hailing startup is said to generate revenue of $700 million last year.

By **Eric Newcomer**

January 12, 2017, 6:09 PM EST *Updated on* January 12, 2017, 9:07 PM EST

Lyft lost $600M in 2016 while increasing revenue 250 percent



APR 15, 2017 @ 04:29 AM 23,211

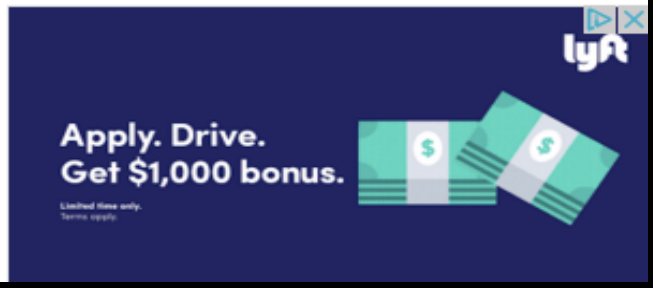
Sell In May & Walk Away: 6 Stocks to Dump

Caution Ahead: Uber's Financials Reveal Staggering Growth But Raise Many Questions

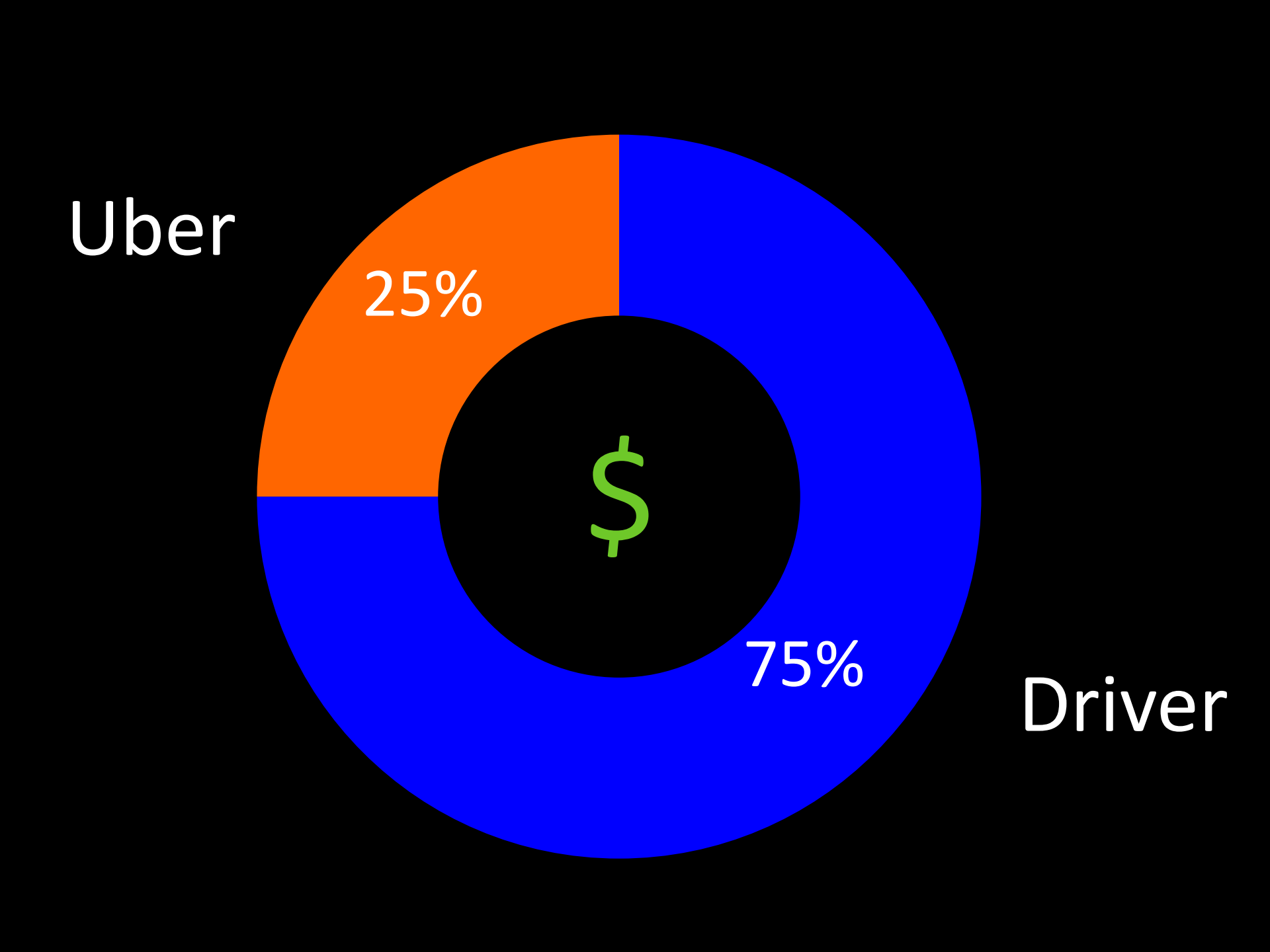
Mark Rogowsky, CONTRIBUTOR

I write about technology, trends and companies on the leading edge. FULL BIO

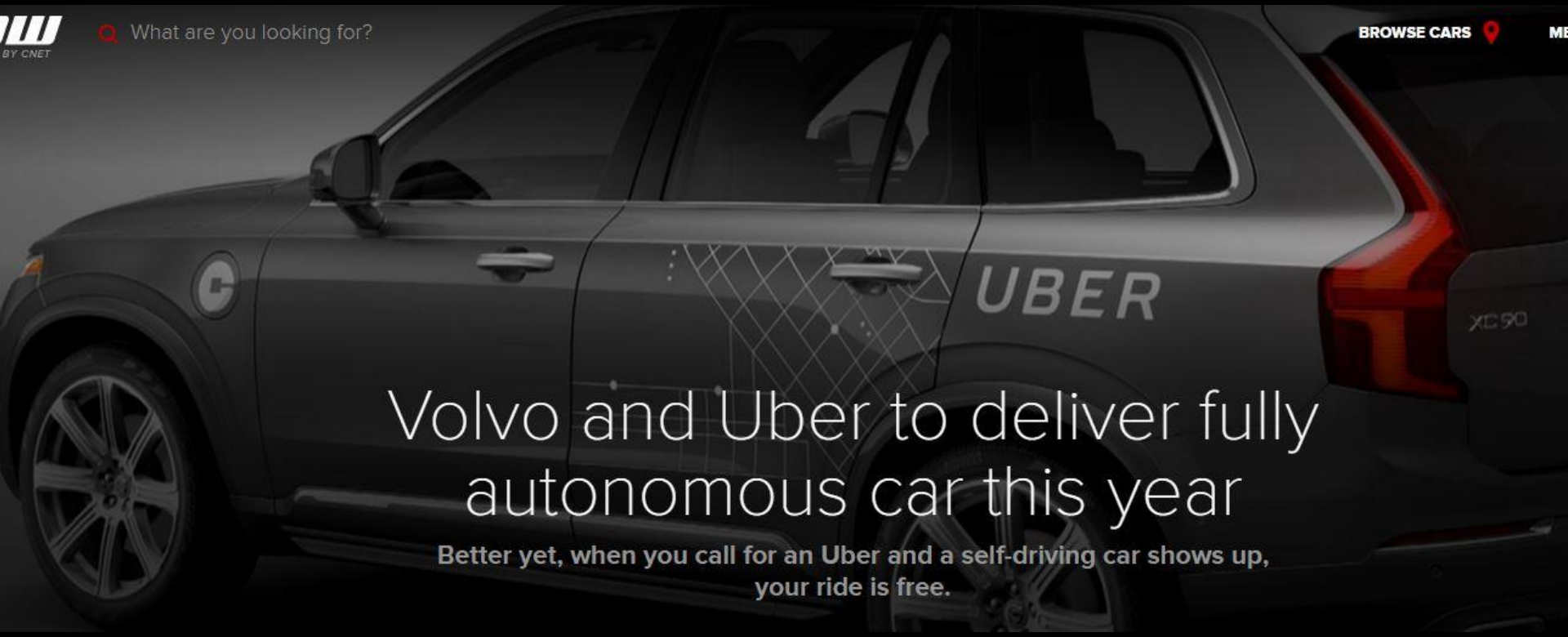
Opinions expressed by Forbes Contributors are their own.



While Uber's growth has been remarkable and remains very strong as it approaches 7 years old -- business more than doubled in 2016 -- **the company has yet to demonstrate a sustainable or profitable business model.** - *Forbes, Apr. 15, 2017*


Uber
25%
$
75%
Driver

Uber

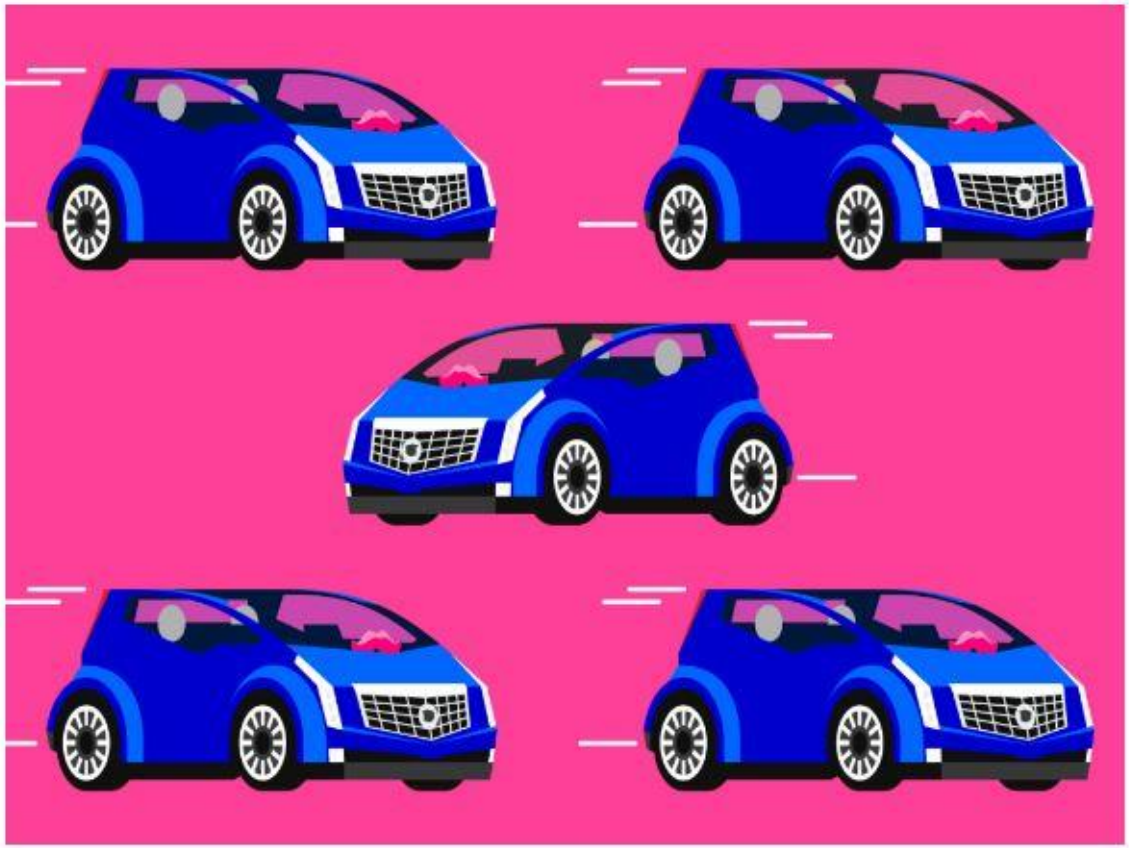


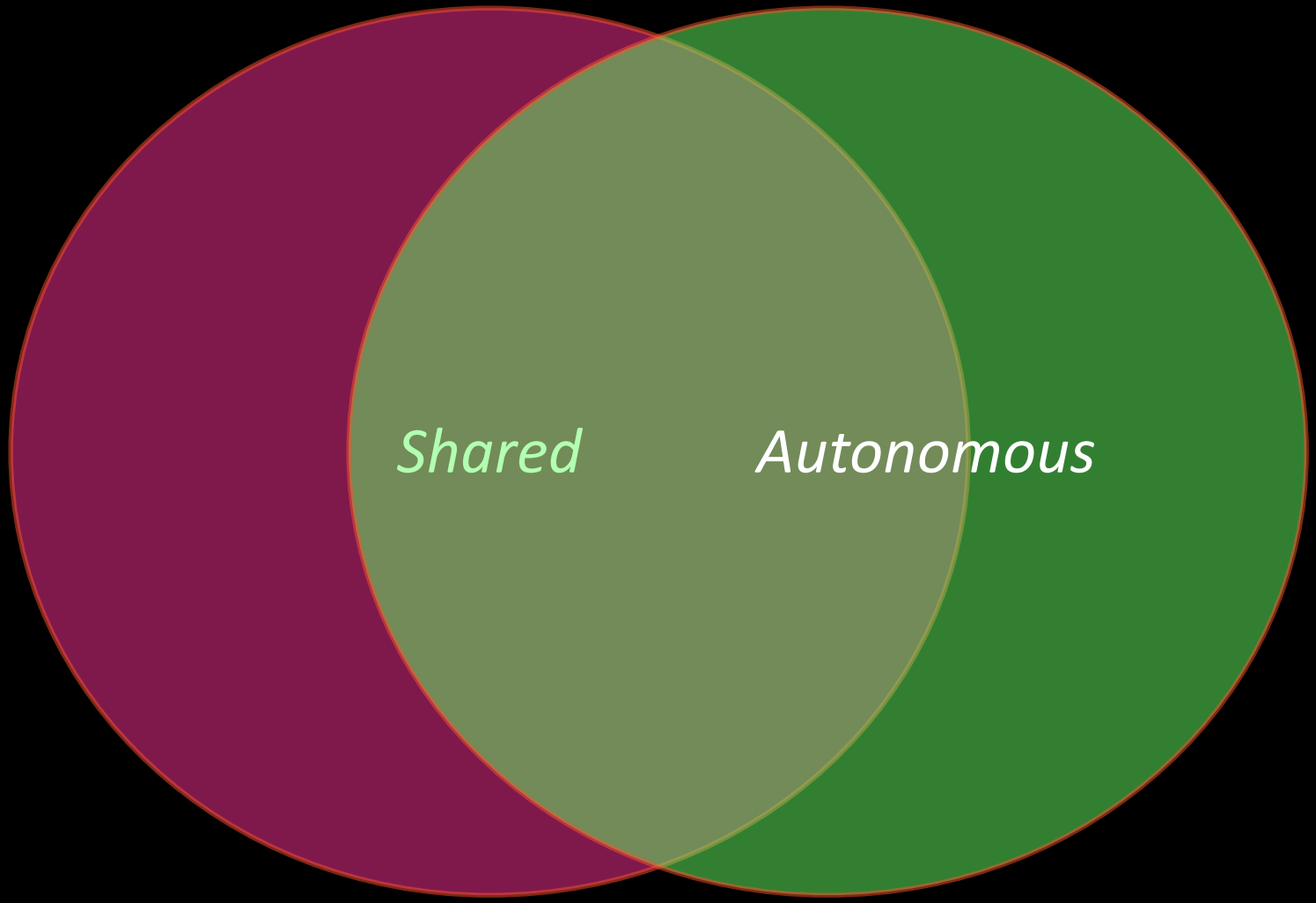
Volvo and Uber to deliver fully autonomous car this year

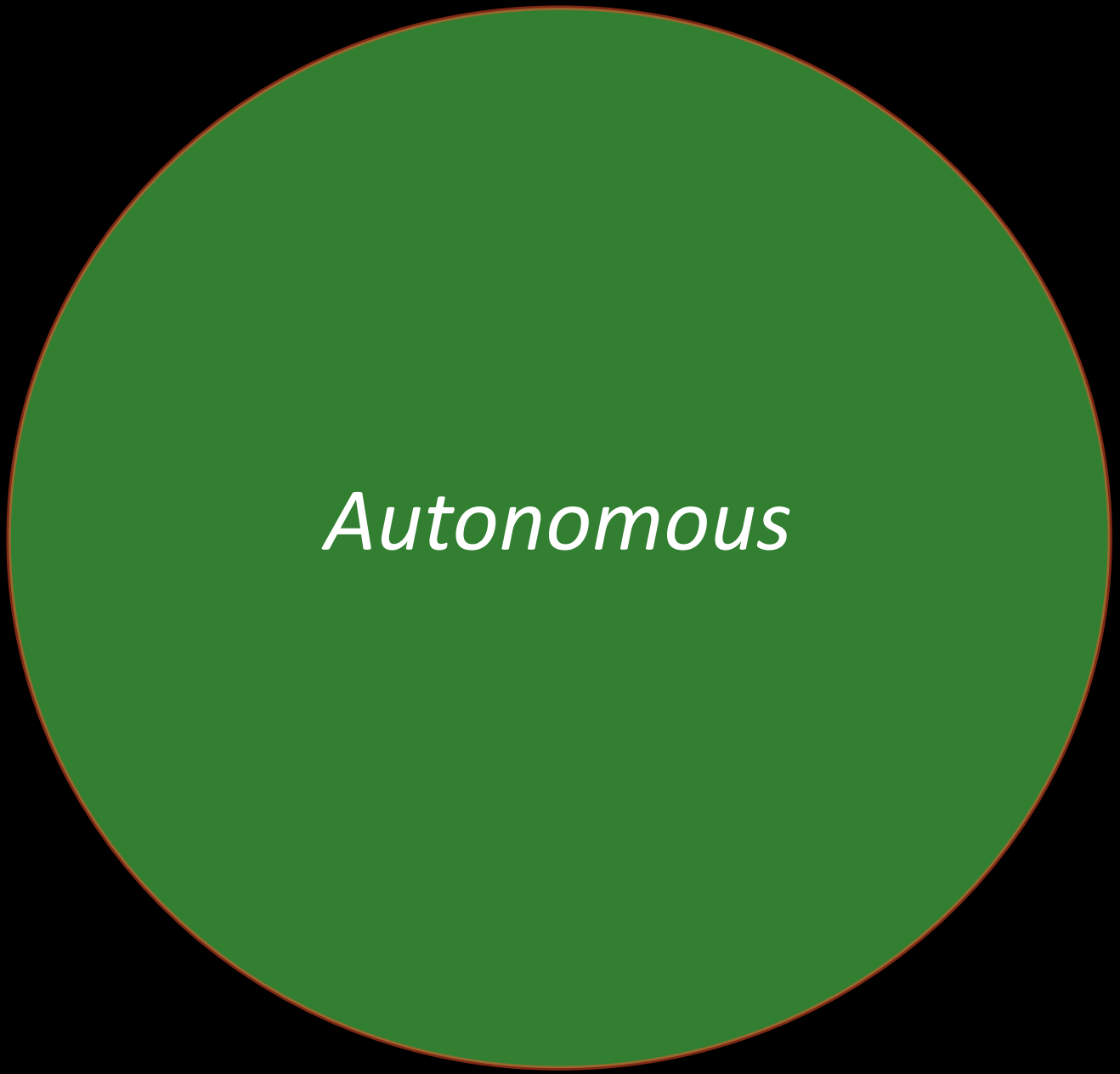
Better yet, when you call for an Uber and a self-driving car shows up, your ride is free.

ALEX DAVIES TRANSPORTATION 01.04.16 8:30 AM

GM AND LYFT ARE BUILDING A NETWORK OF SELF-DRIVING CARS




Shared
Autonomous


Autonomous

5 No steering wheel, pedals, or need to drive.

4 Fully autonomous for certain trips, but not every driving scenario.

3 Vehicle takes “safety-critical functions.” Driver monitors but can take hands wheel.

2 Autopilot, hands on wheel

1 Cruise control / lane guidance / automatic braking

0 Driver controls everything


40,200 U.S traffic deaths in 2016
+6% from 2015, +14% from 2014
94% of traffic accidents
attributed to human error

The Atlantic
SUBSCRIBE SEARCH MENU

Self-Driving Cars Could Save 300,000 Lives Per Decade in America

Automation on the roads could be the great public-health achievement of the 21st century.

Dated: January 11, 2018.

Michael D. Emerson,

Director, Marine Transportation Systems, U.S. Coast Guard.

[FR Doc. 2018–00781 Filed 1–17–18; 8:45 am]

BILLING CODE 9110–04–P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. NHTSA–2018–0009]

Removing Regulatory Barriers for Vehicles With Automated Driving Systems

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Request for comment (RFC).

path for innovative vehicle designs and technologies that feature ADSs.

DATES: Comments are due no later than March 5, 2018.

ADDRESSES: Comments must refer to the docket number above and be submitted by one of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov*. Follow the online instructions for submitting comments.
- *Mail:* Docket Management Facility, M–30, U.S. Department of Transportation, West Building, Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- *Hand Delivery or Courier:* U.S. Department of Transportation, West Building, Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m. Eastern time, Monday through Friday, except Federal holidays.
- *Fax:* 202–493–2251.

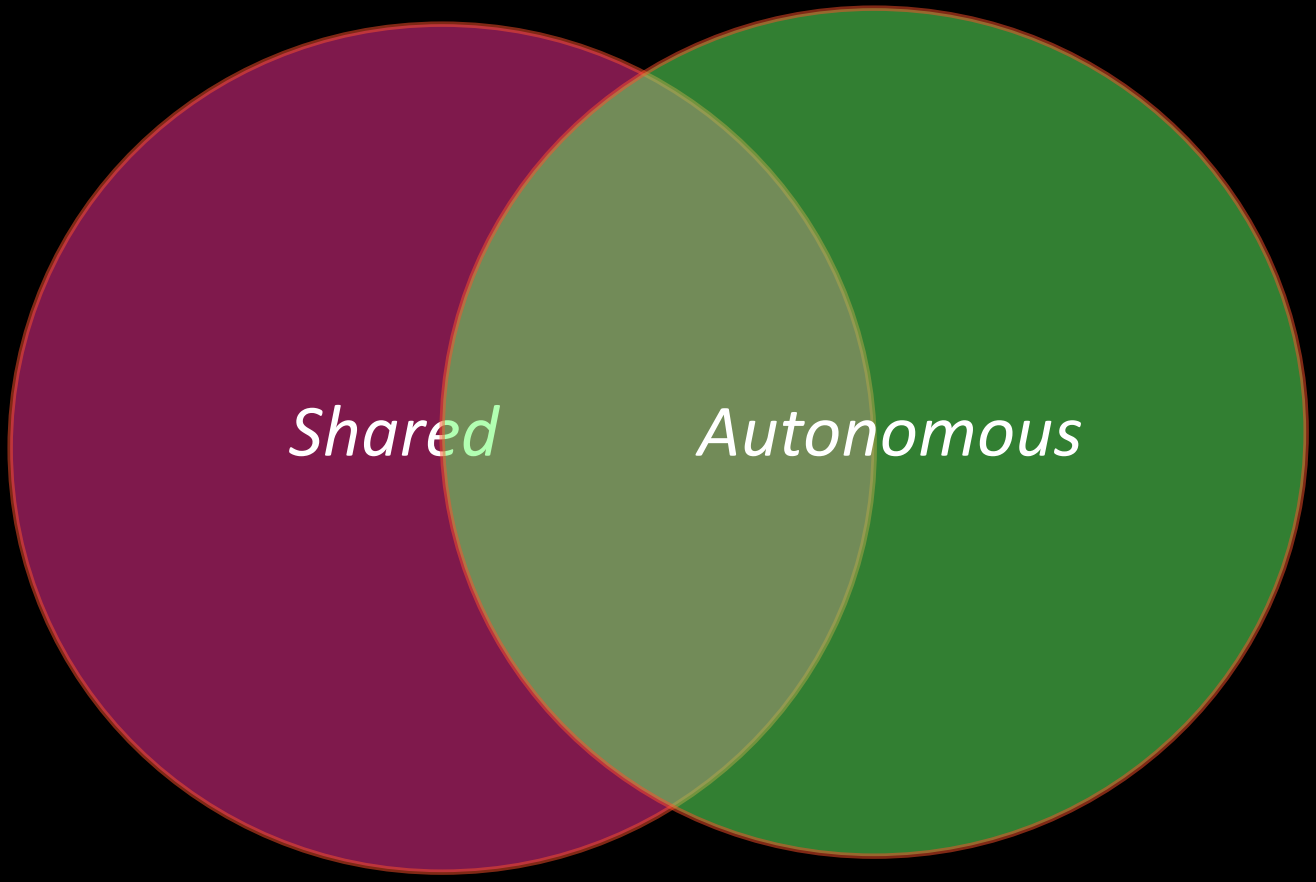
Regardless of how you submit your

Standards, telephone 202–
email *David.Hines@dot.gov*
For legal issues, Stephen
Assistant Chief Counsel, V
Rulemaking and Harmoniz
of Chief Counsel, 202–366–
Steve.Wood@dot.gov.

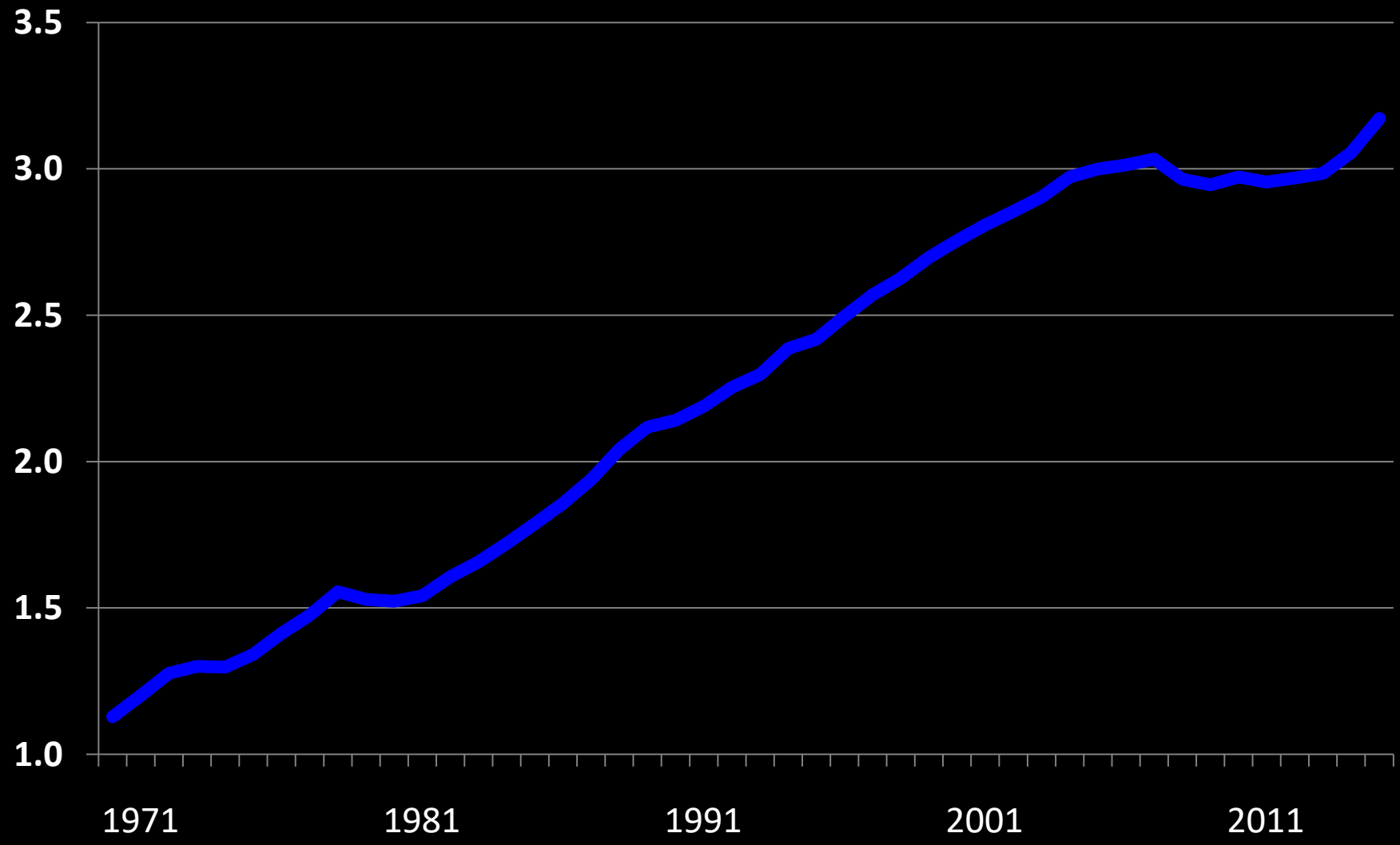
SUPPLEMENTARY INFORMATIO

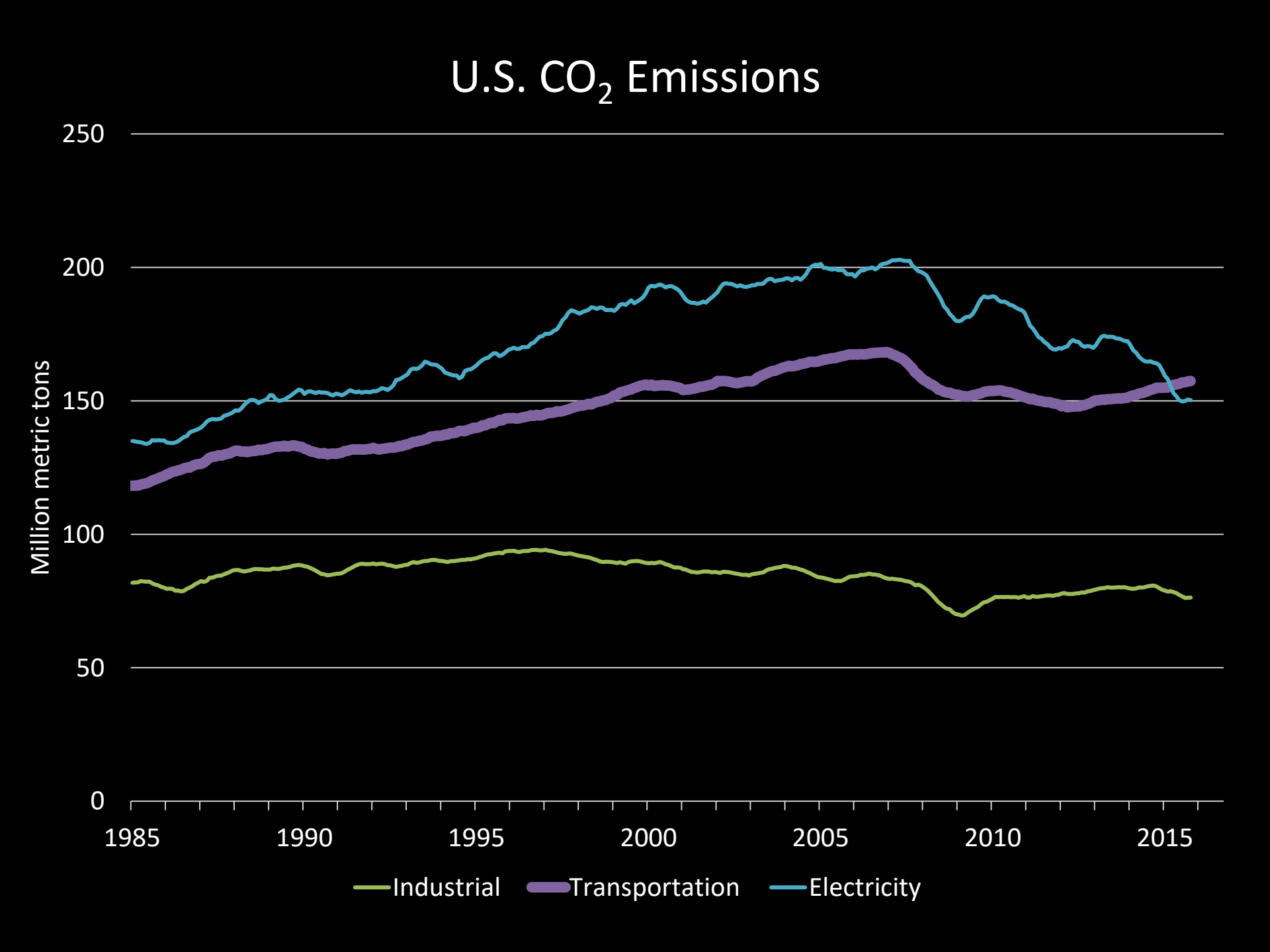
Table of Contents

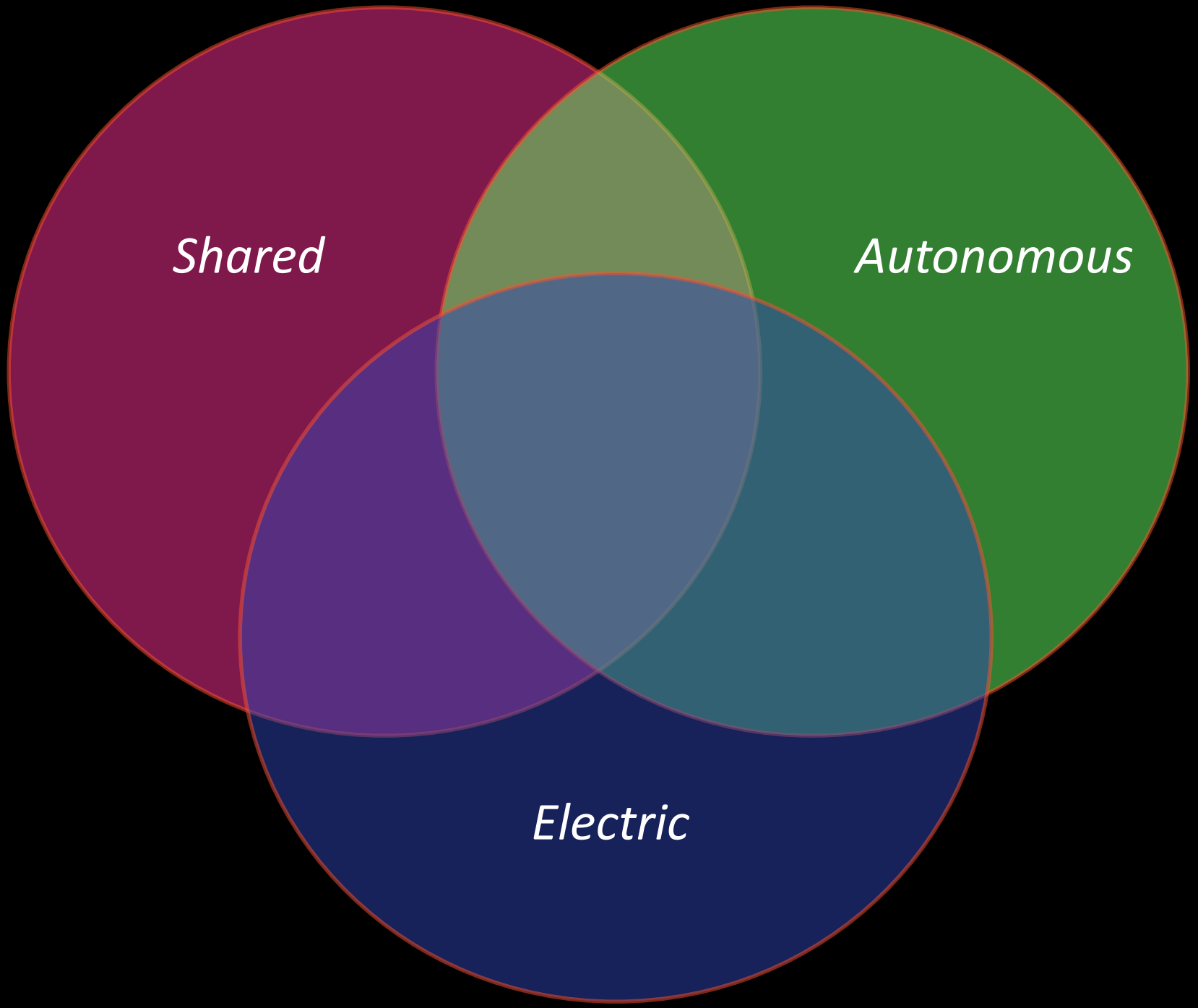

Displace trucking and taxi workers
Increase urban sprawl
Increase congestion
Impact public transit ridership
Skyrocket transportation emissions

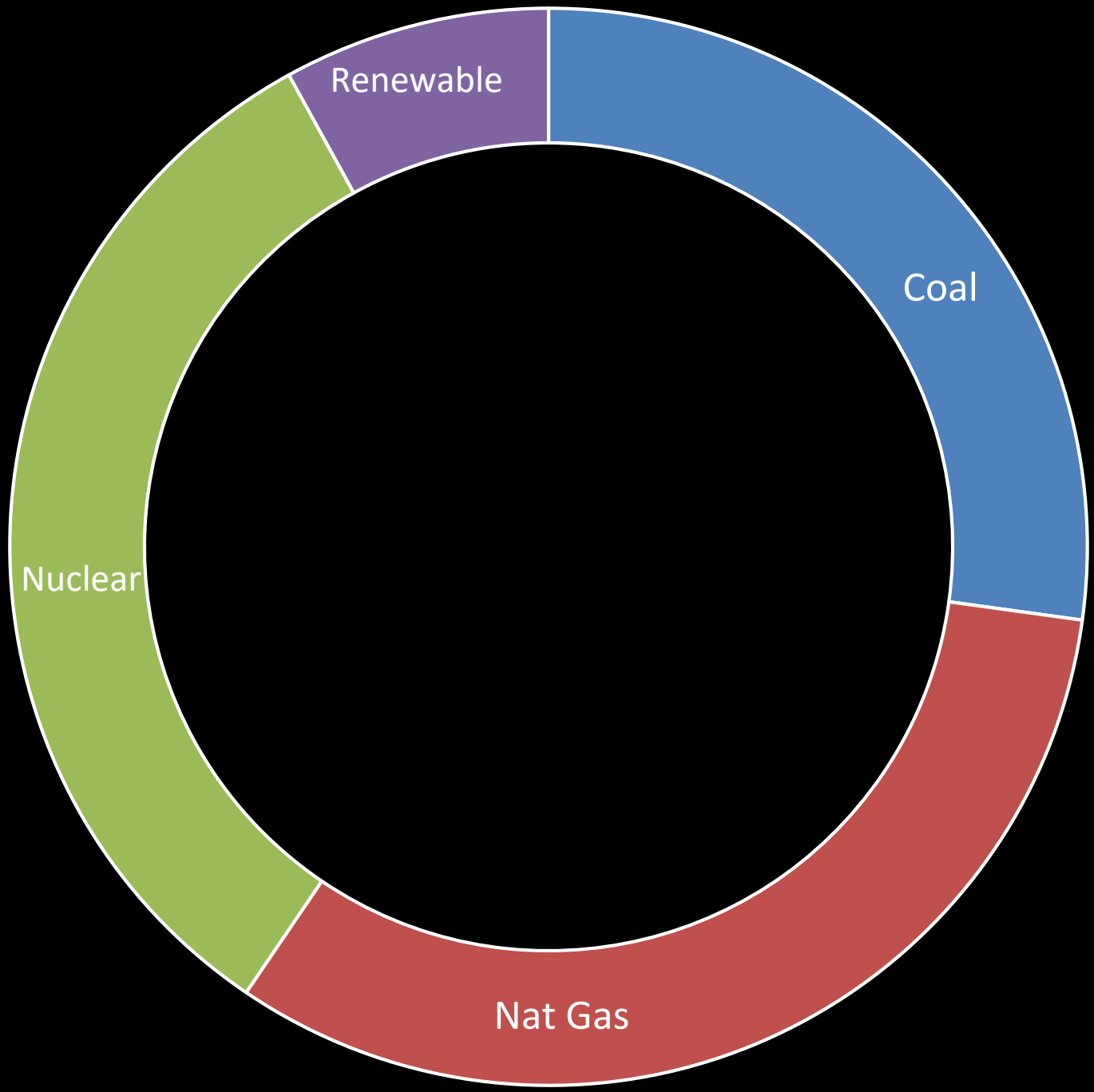

Shared
Autonomous

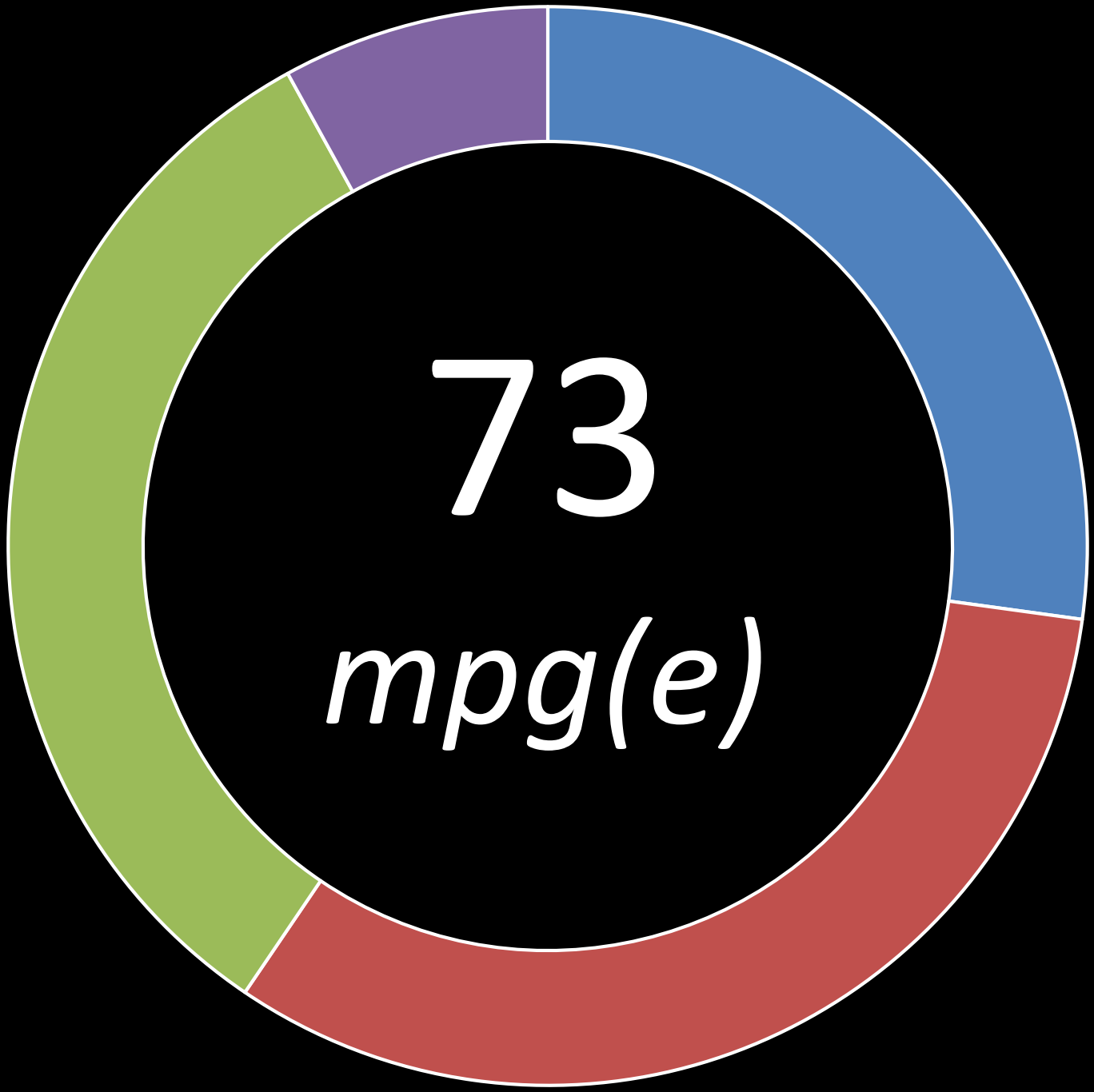
Domestic Vehicle Miles Travelled, Trillions

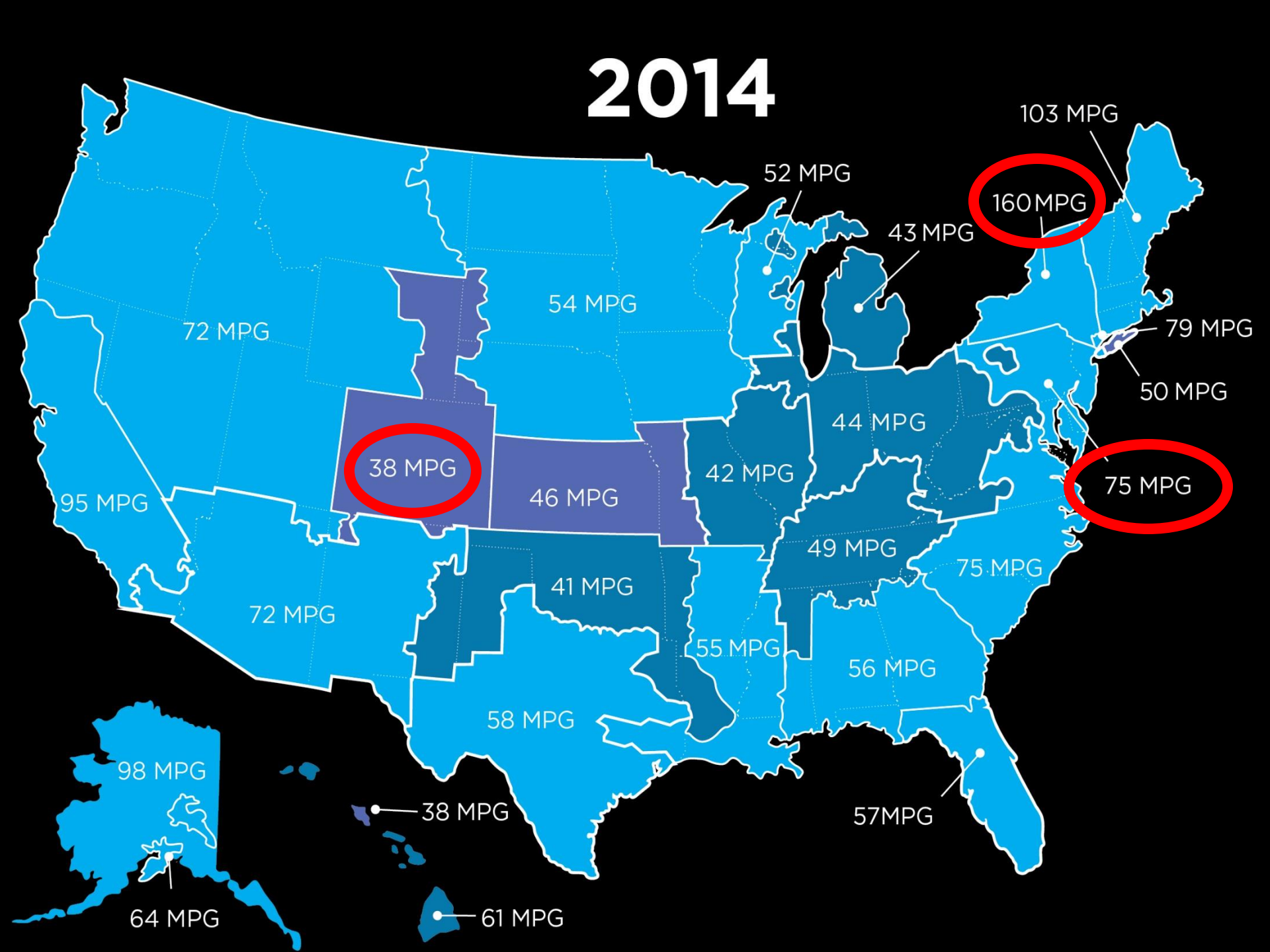


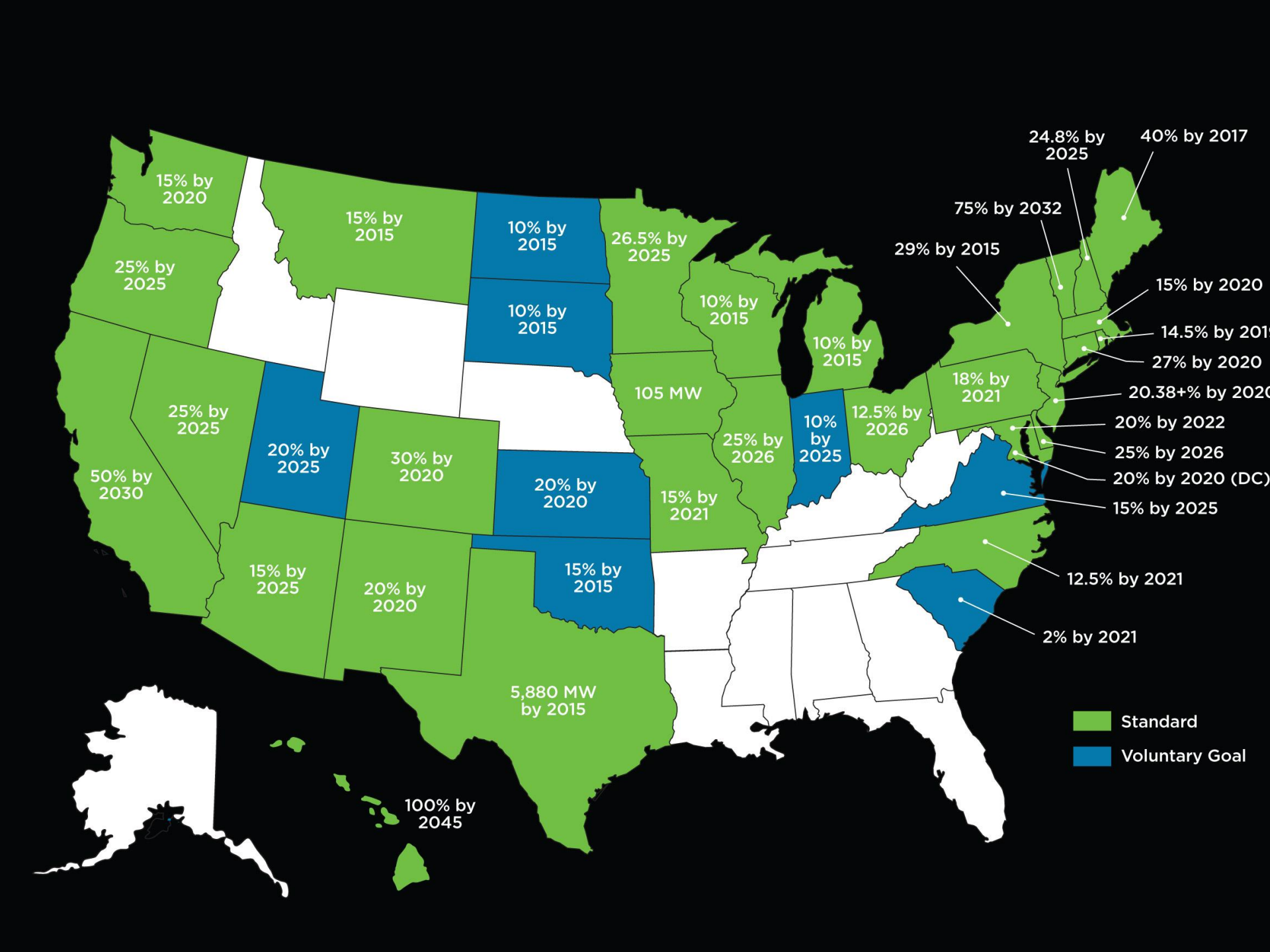

U.S. CO_2 Emissions
250
200
150
100
50
0
Million metric tons
1985
1990
1995
2000
2005
2010
2015
Industrial
Transportation
Electricity

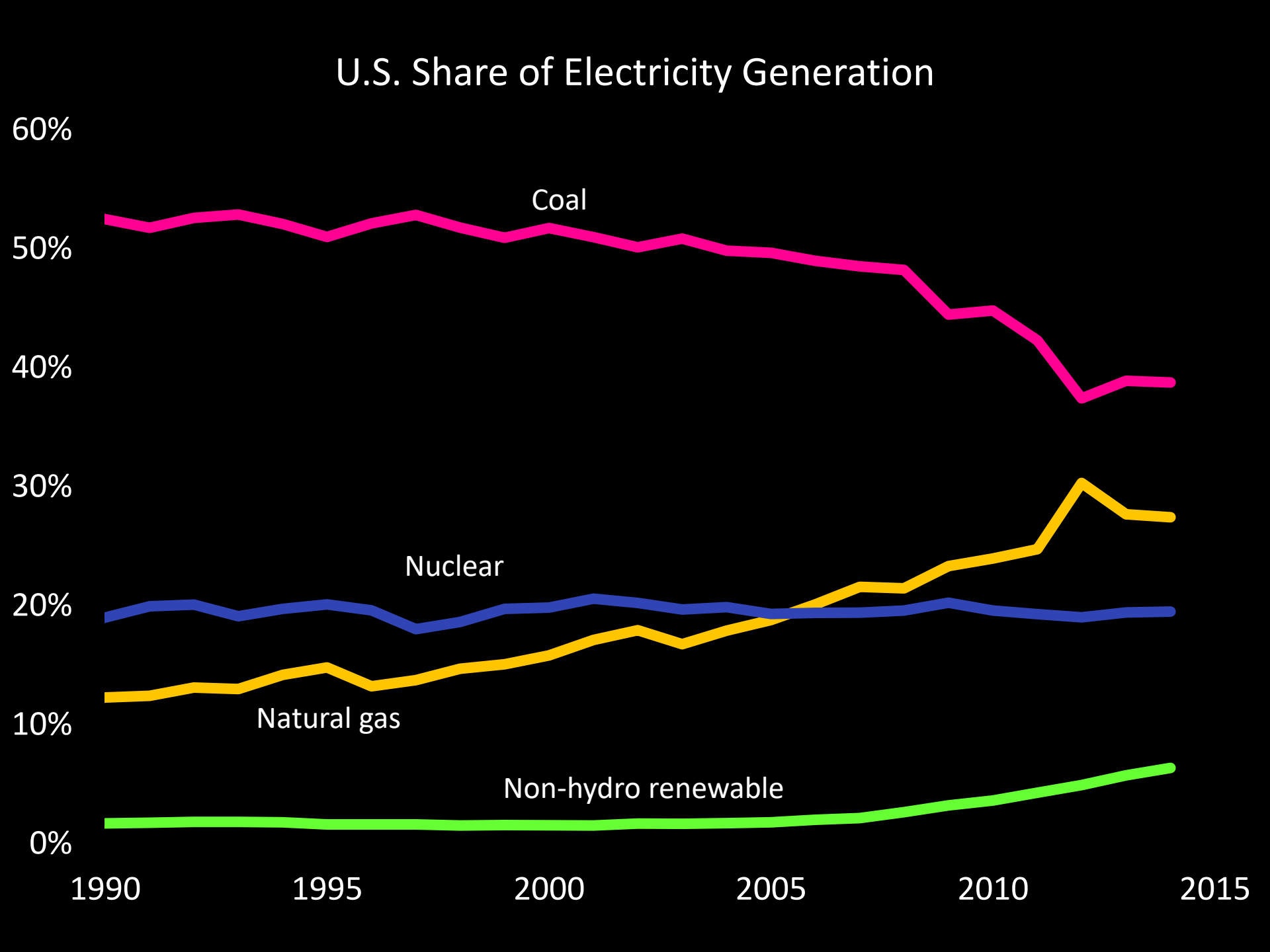

Shared
Autonomous
Electric

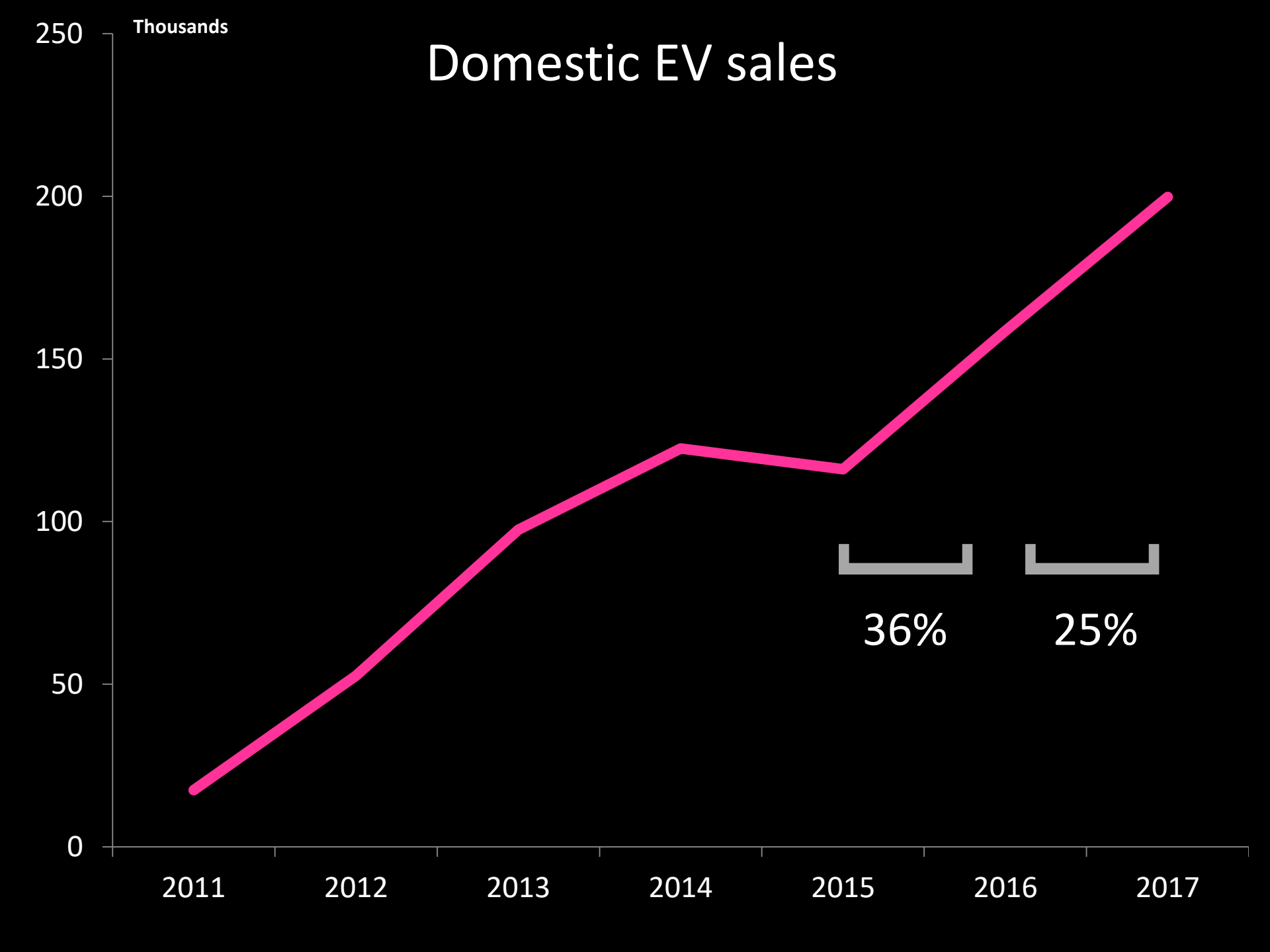

Renewable
Coal
Nuclear
Nat Gas

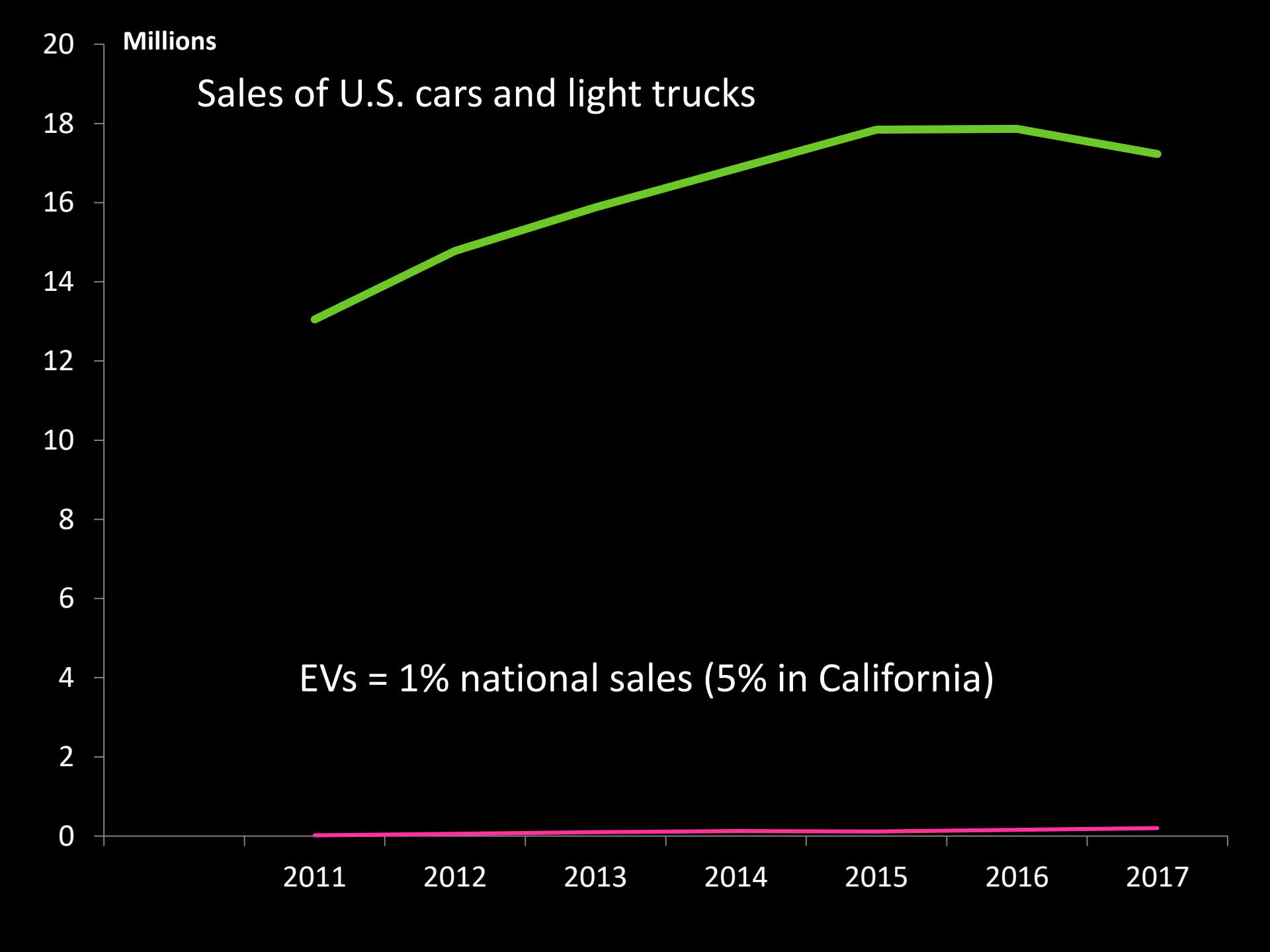

73
mpg(e)

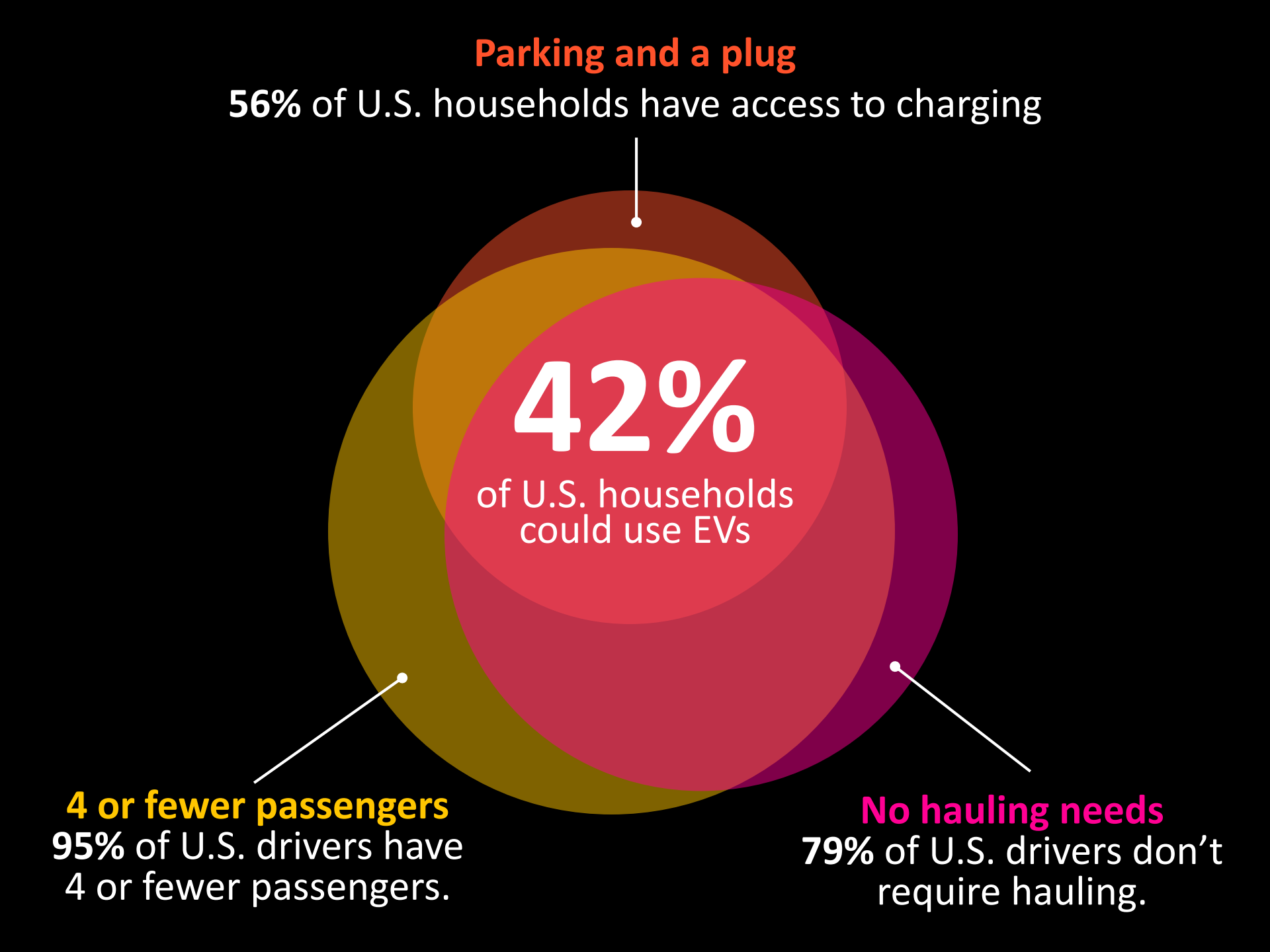

2014
103 MPG
52 MPG
160 MPG
43 MPG
54 MPG
72 MPG
79 MPG
50 MPG
44 MPG
38 MPG
42 MPG
75 MPG
95 MPG
46 MPG
49 MPG
75 MPG
41 MPG
72 MPG
55 MPG
56 MPG
58 MPG
98 MPG
38 MPG
57MPG
64 MPG
61 MPG


15% by 2020
25% by 2025
50% by 2030
25% by 2025
15% by 2025
15% by 2015
20% by 2025
30% by 2020
20% by 2020
15% by 2015
5,880 MW by 2015
20% by 2020
100% by 2045
15% by 2015
10% by 2015
10% by 2015
26.5% by 2025
10% by 2015
105 MW
15% by 2021
25% by 2026
10% by 2025
10% by 2015
12.5% by 2026
18% by 2021
24.8% by 2025
40% by 2017
75% by 2032
29% by 2015
15% by 2020
14.5% by 201
27% by 2020
20.38+% by 2020
20% by 2022
25% by 2026
20% by 2020 (DC)
15% by 2025
12.5% by 2021
2% by 2021
Standard
Voluntary Goal


U.S. Share of Electricity Generation
60%
50%
40%
30%
20%
10%
0%
Coal
Nuclear
Natural gas
Non-hydro renewable
1990
1995
2000
2005
2010
2015


Thousands
Domestic EV sales
250
200
150
100
50
0
2011
2012
2013
2014
2015
2016
2017
36%
25%


Millions
Sales of U.S. cars and light trucks
EVs = 1% national sales (5% in California)
20
18
16
14
12
10
8
6
4
2
0
2011
2012
2013
2014
2015
2016
2017


Parking and a plug
56% of U.S. households have access to charging
42%
of U.S. households could use EVs
4 or fewer passengers
95% of U.S. drivers have 4 or fewer passengers.
No hauling needs
79% of U.S. drivers don't require hauling.

The number of Americans interested in an EV approaches the number planning to purchase a pickup truck. ~*AAA, April, 2017*

30 million Americans are likely to buy an electric vehicle for their next car. ~*AAA, April, 2017*

eGallon: Compare the costs of driving with electricity

What is eGallon?

It is the cost of fueling a vehicle with electricity compared to a similar vehicle that runs on gasoline.

Did you know?

On average, it costs about half as much to drive an electric vehicle.

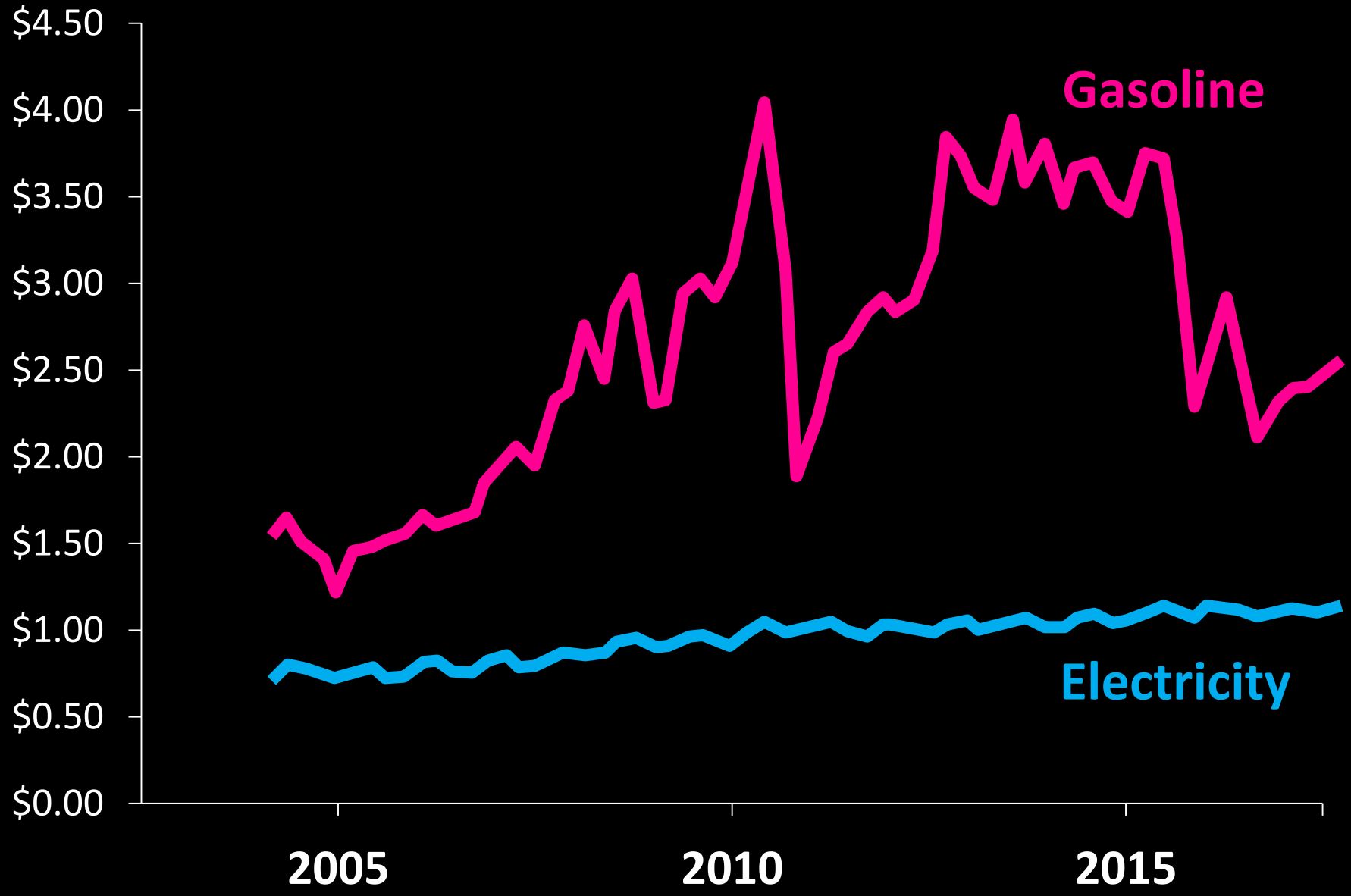
Data and Methodology
Updated: January 13, 2018

Find out how much it costs to fuel an electric vehicle in your state

US Average

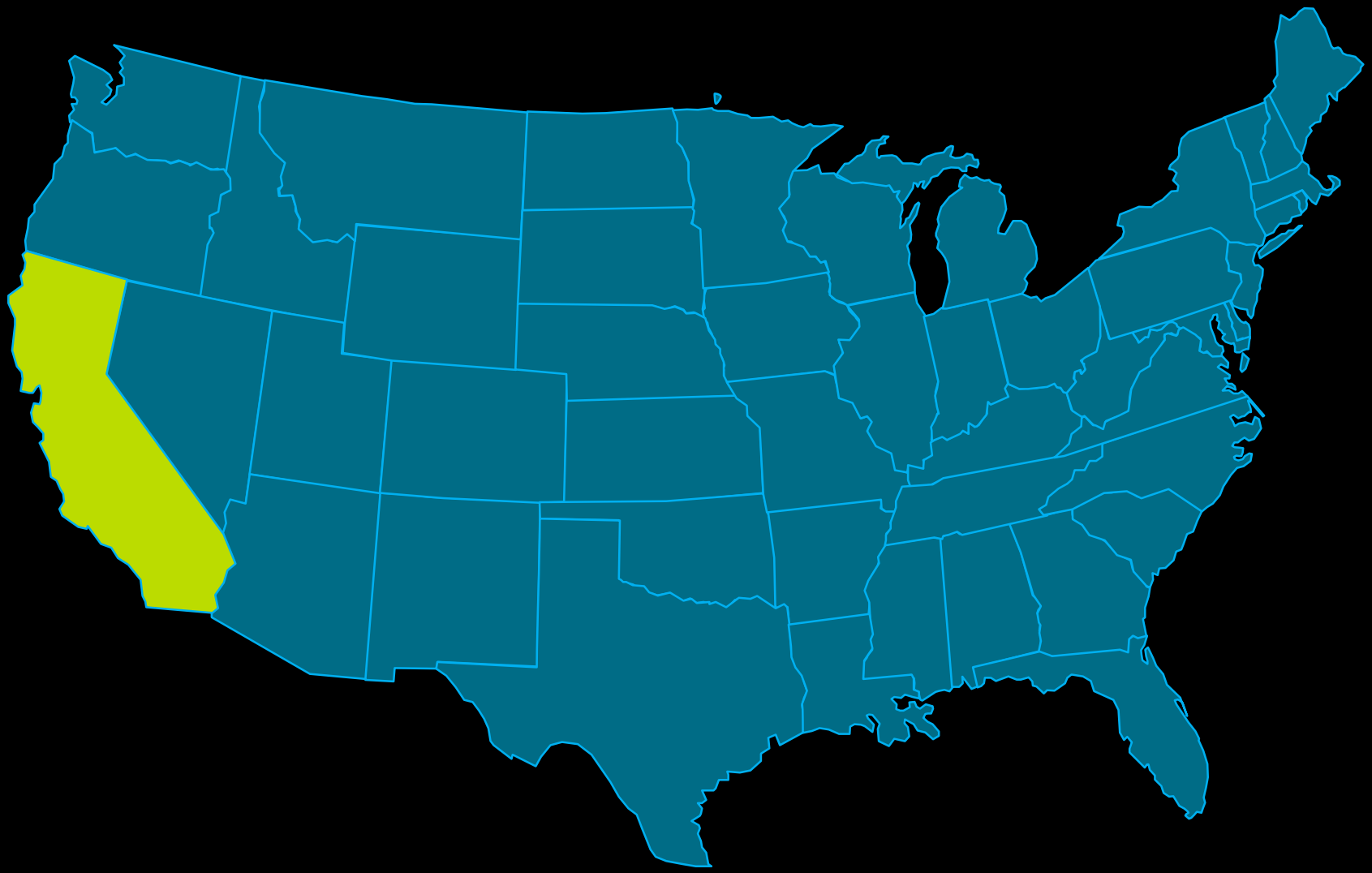
regular gasoline	2.52
electric eGallon	1.17

ENERGY.GOV

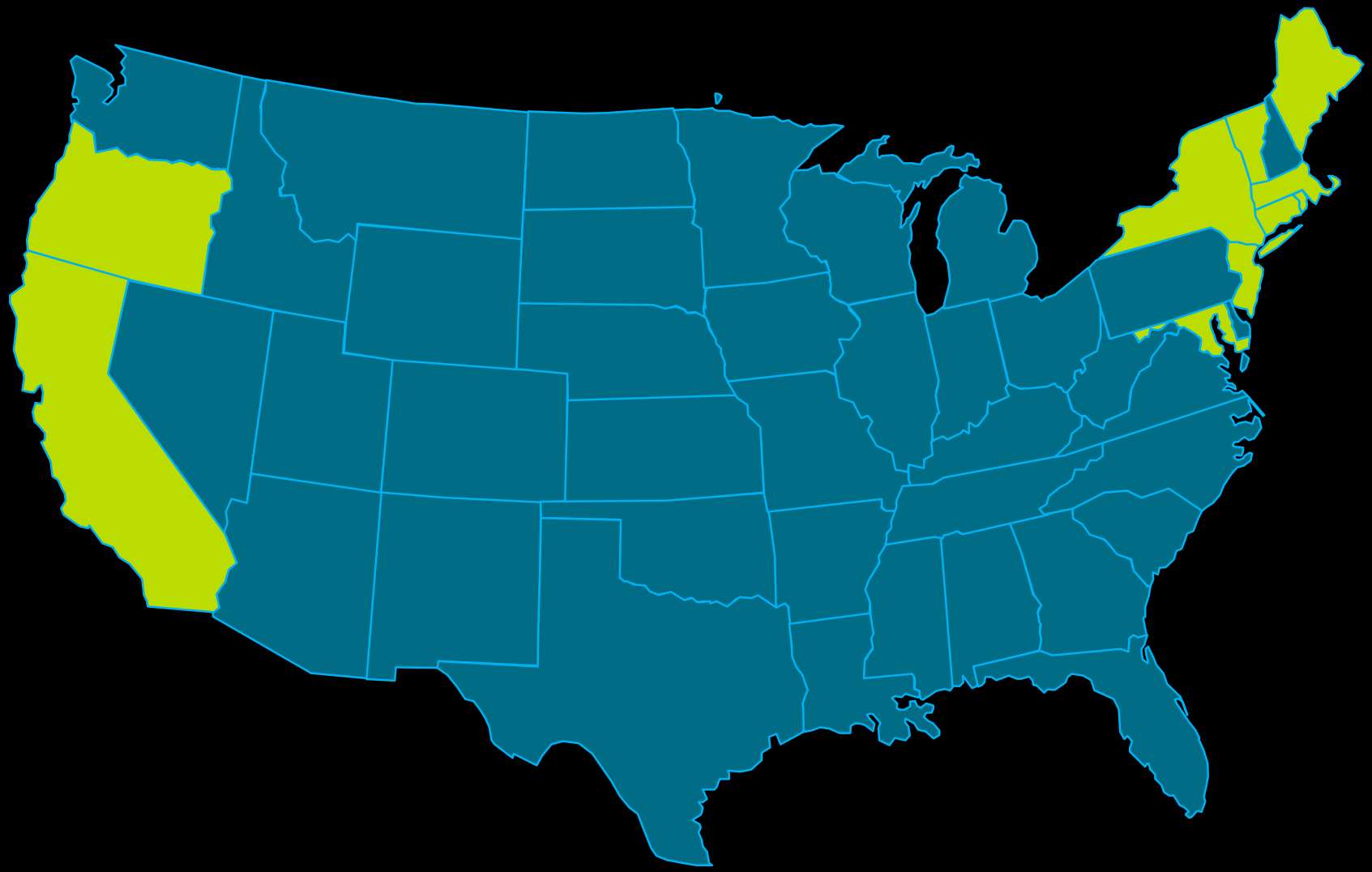

$4.50
$4.00
$3.50
$3.00
$2.50
$2.00
$1.50
$1.00
$0.50
$0.00
Gasoline
Electricity
2005
2010
2015

Manufacturer’s recommended services are **$1,500 more expensive** for a Chevrolet Sonic compared to the all-electric Chevy Bolt, over 150,000 miles.

California Zero Emissions Vehicle (ZEV) Program



California Zero Emissions Vehicle (ZEV) Program

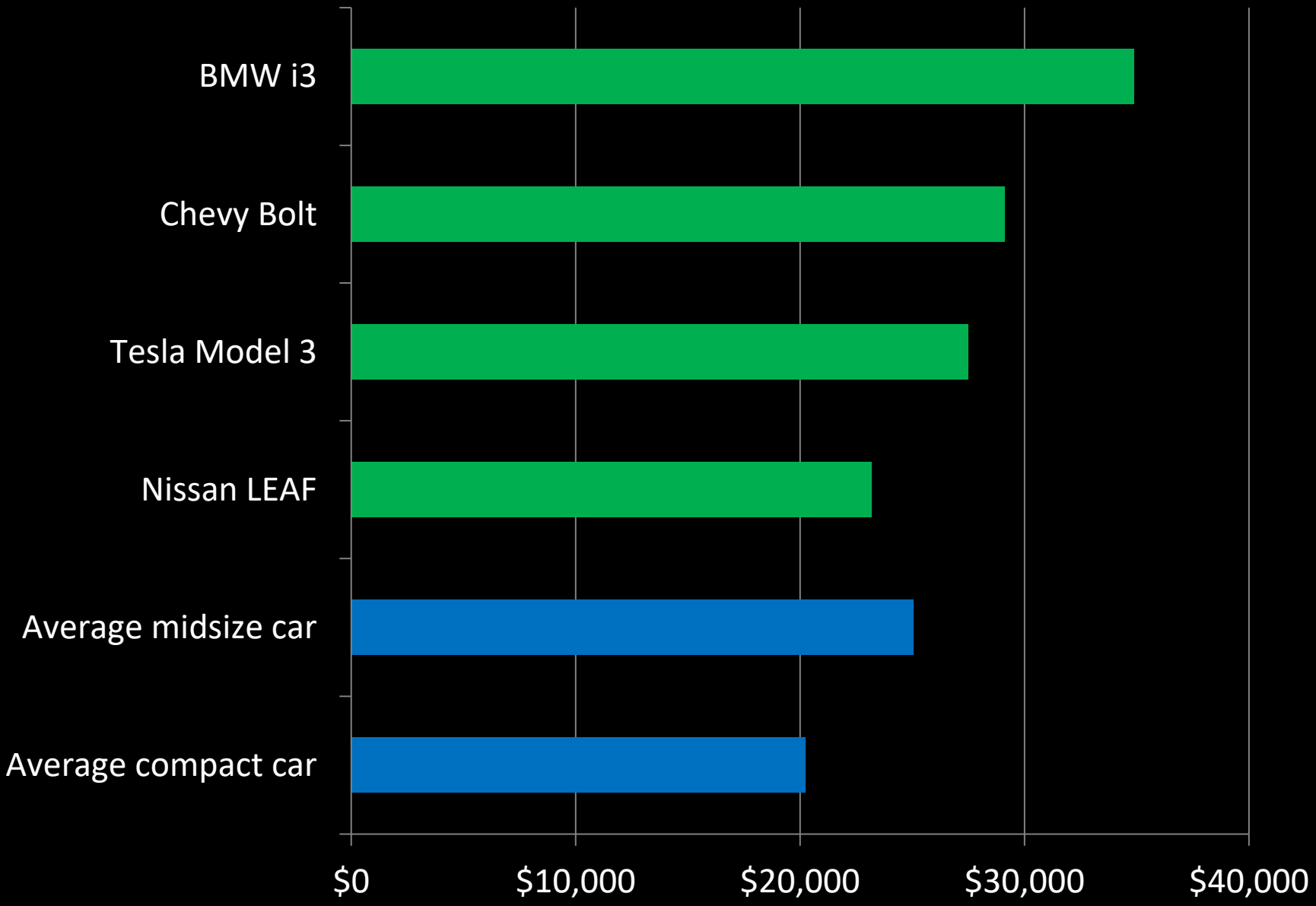


California Zero Emissions Vehicle (ZEV) Program

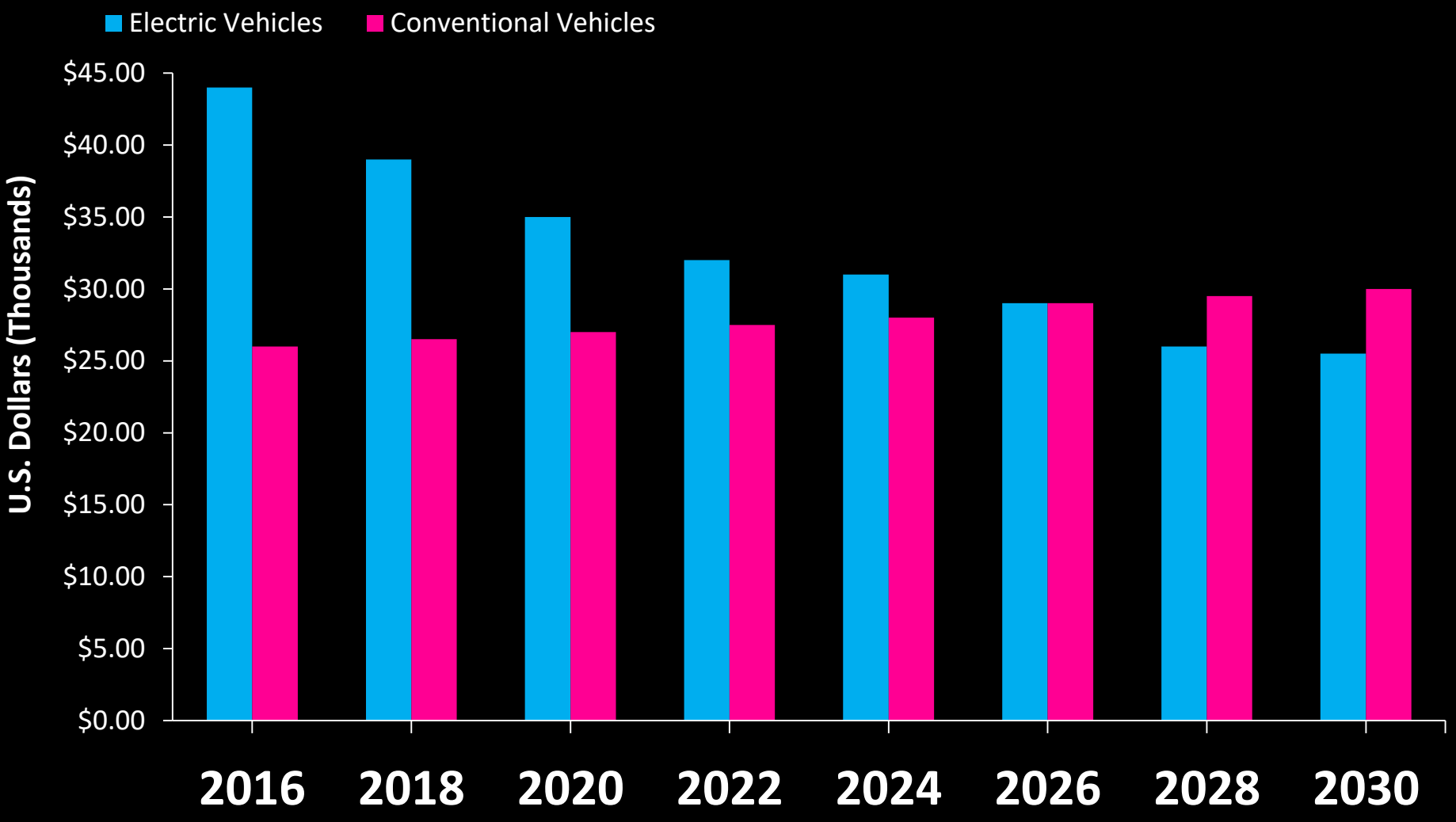
28% of U.S vehicle sales in 2015.

8% required to be EVs in 2025.

2017 suggested MSRP after $7,500 federal tax credit

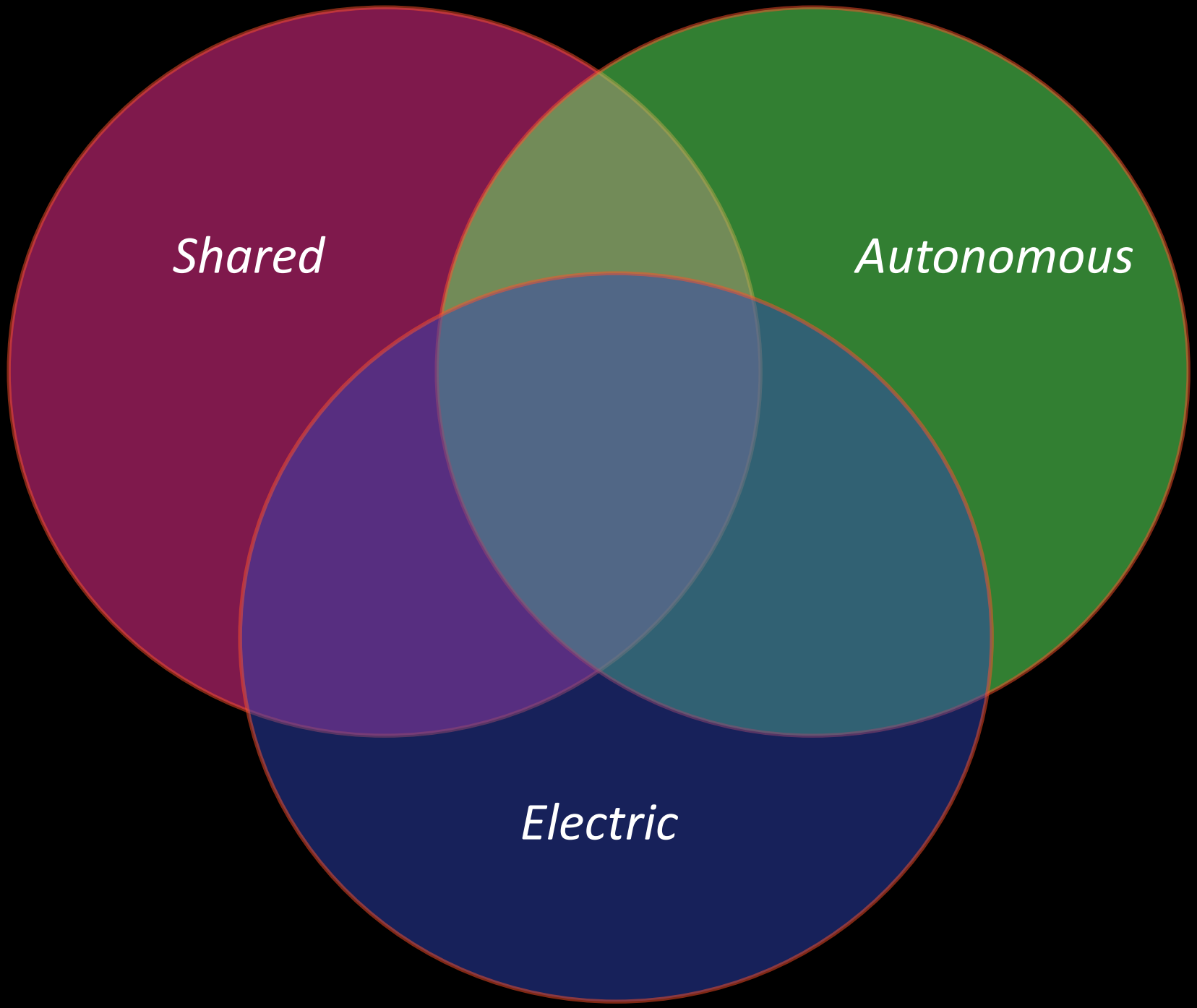


Electric vehicle vs. conventional vehicle cost



Barriers

- Access to home charging, especially in multi-unit dwellings.
- General public awareness
- Automaker profit margin


Shared
Autonomous
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Josh Goldman
jgoldman@ucsusa.org
F-TYPE
JAGUAR
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