

28th Annual CTS Transportation Research Conference

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November 2, 2017

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HOW WE PAY FOR TRANSPORTATION INFRASTRUCTURE: WHAT'S THE VALUE PROPOSITION?

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Policy Director

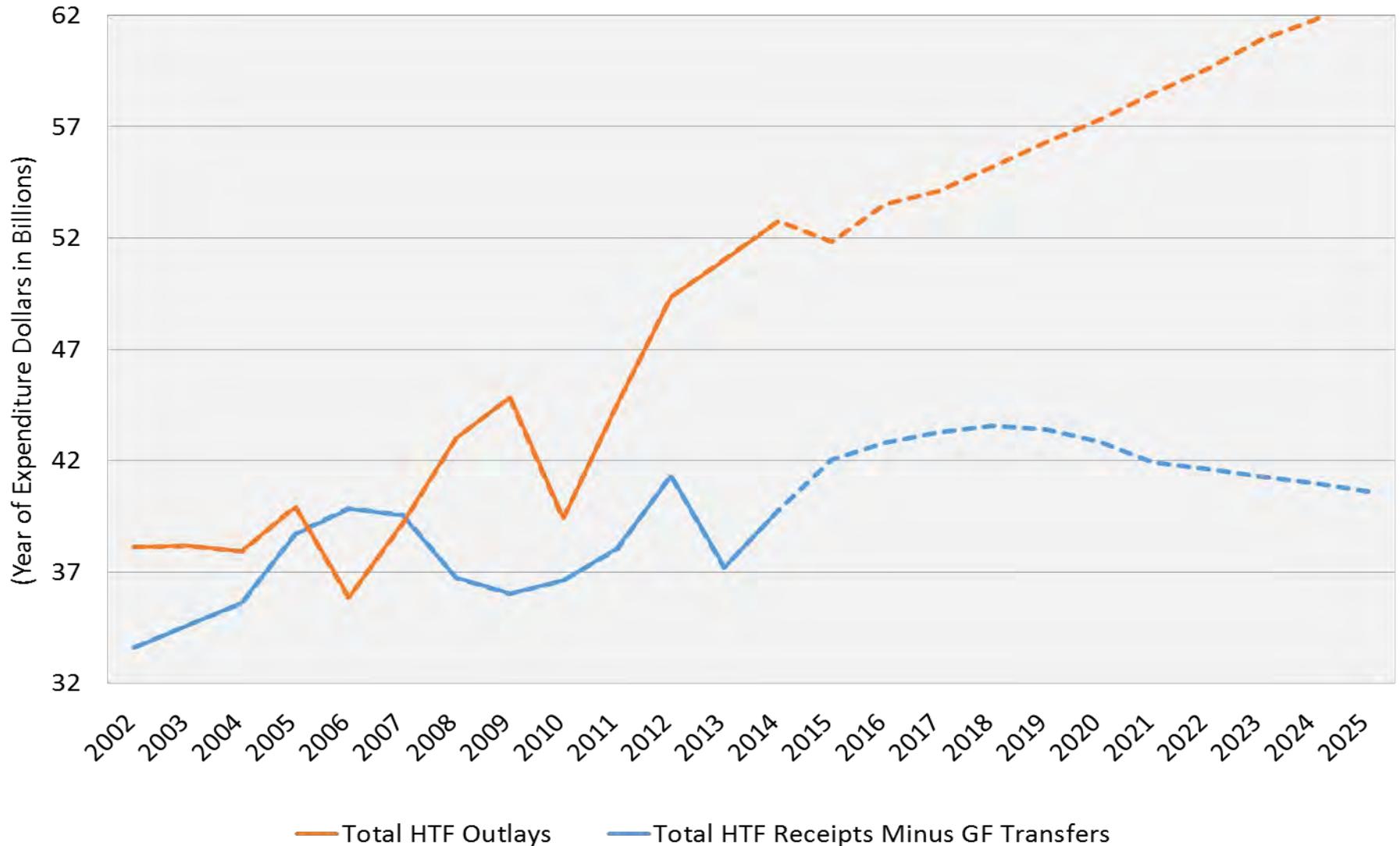
American Association of State Highway and Transportation Officials



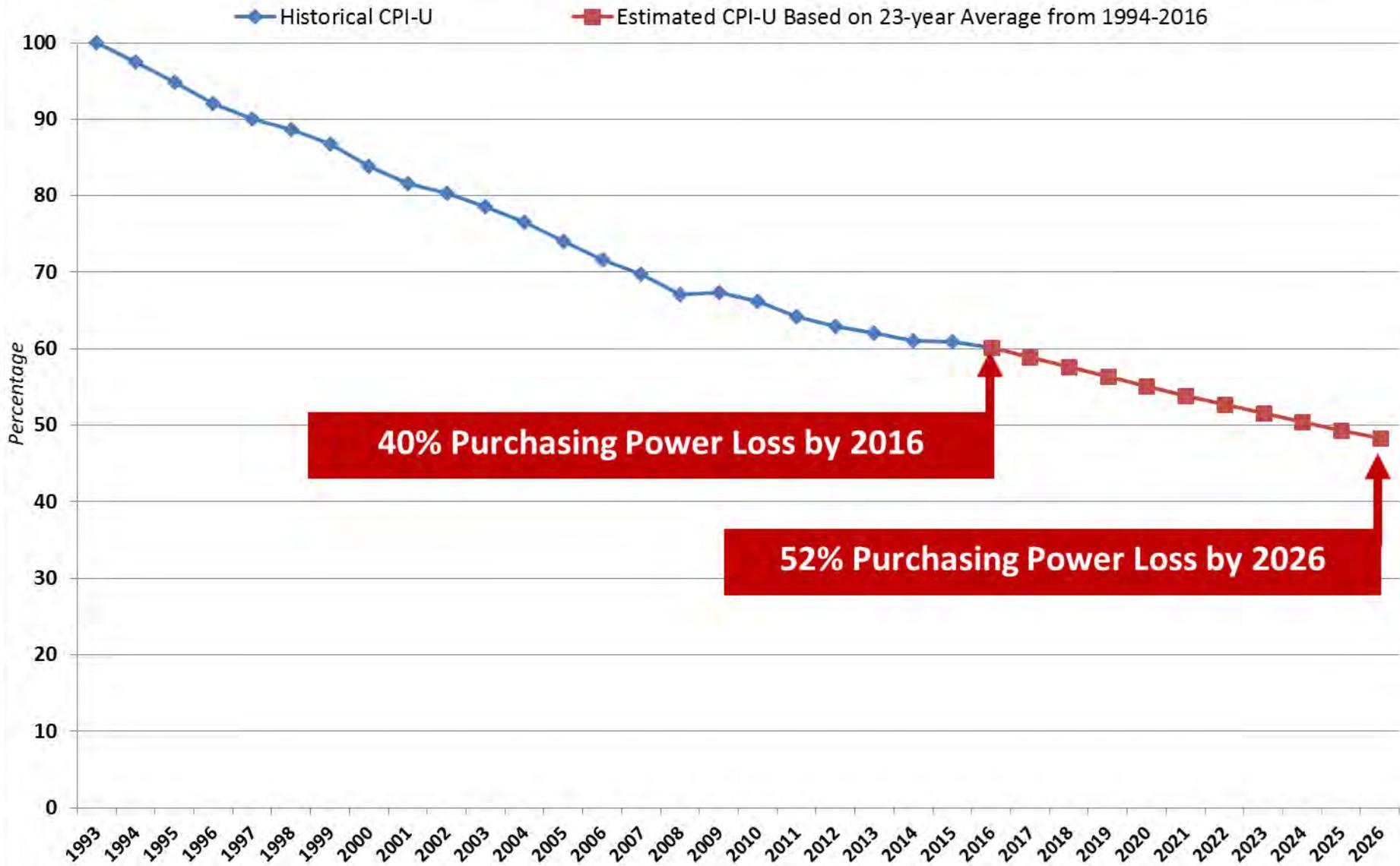
SETTING THE CONTEXT: THE FEDERAL FUNDING CLIFF



HIGHWAY TRUST FUND: RECEIPTS/OUTLAYS GAP



PURCHASING POWER LOSS OF GAS TAX DUE TO INFLATION



FEDERAL GAS TAX HEADWIND: SIGNIFICANT LOSS OF PURCHASING POWER

Sample of Nominal Price Changes Relative to Federal Gas Tax

Item	Description	1993	2015	Percent Change
College Tuition	Average Tution & Fees at Public 4-year Universities	\$ 1,908	\$ 9,145	379%
Healthcare	National Expenediture Per Capita	\$ 3,402	\$ 9,523	180%
House	Median New Home Price	\$118,000	\$292,000	147%
Gas	Per Gallon	\$ 1.08	\$ 2.56	137%
Beef	Per Pound of Ground Beef	\$ 1.97	\$ 4.38	122%
Movie Ticket	Average Ticket Price	\$ 4.14	\$ 8.43	104%
Bread	Per Pound of White Bread	\$ 0.75	\$ 1.48	98%
Income	National Median Household	\$ 31,241	\$ 56,516	81%
Stamp	One First-Class Stamp	\$ 0.29	\$ 0.49	69%
Car	Average New Car	\$ 16,871	\$ 25,487	51%
Federal Gas Tax	Per Gallon	\$ 0.18	\$ 0.18	0%

Sources: Bureau of Labor Statistics, Centers for Medicare & Medicaid Services, College Board, Federal Reserve Bank of St. Louis, Oak Ridge National Laboratory, U.S. Census Bureau, U.S. Energy Information Agency, U.S. Postal Service

Figure 1: The Federal Gasoline Tax Has Now Gone Longer Than Ever Before Without an Adjustment in Rate

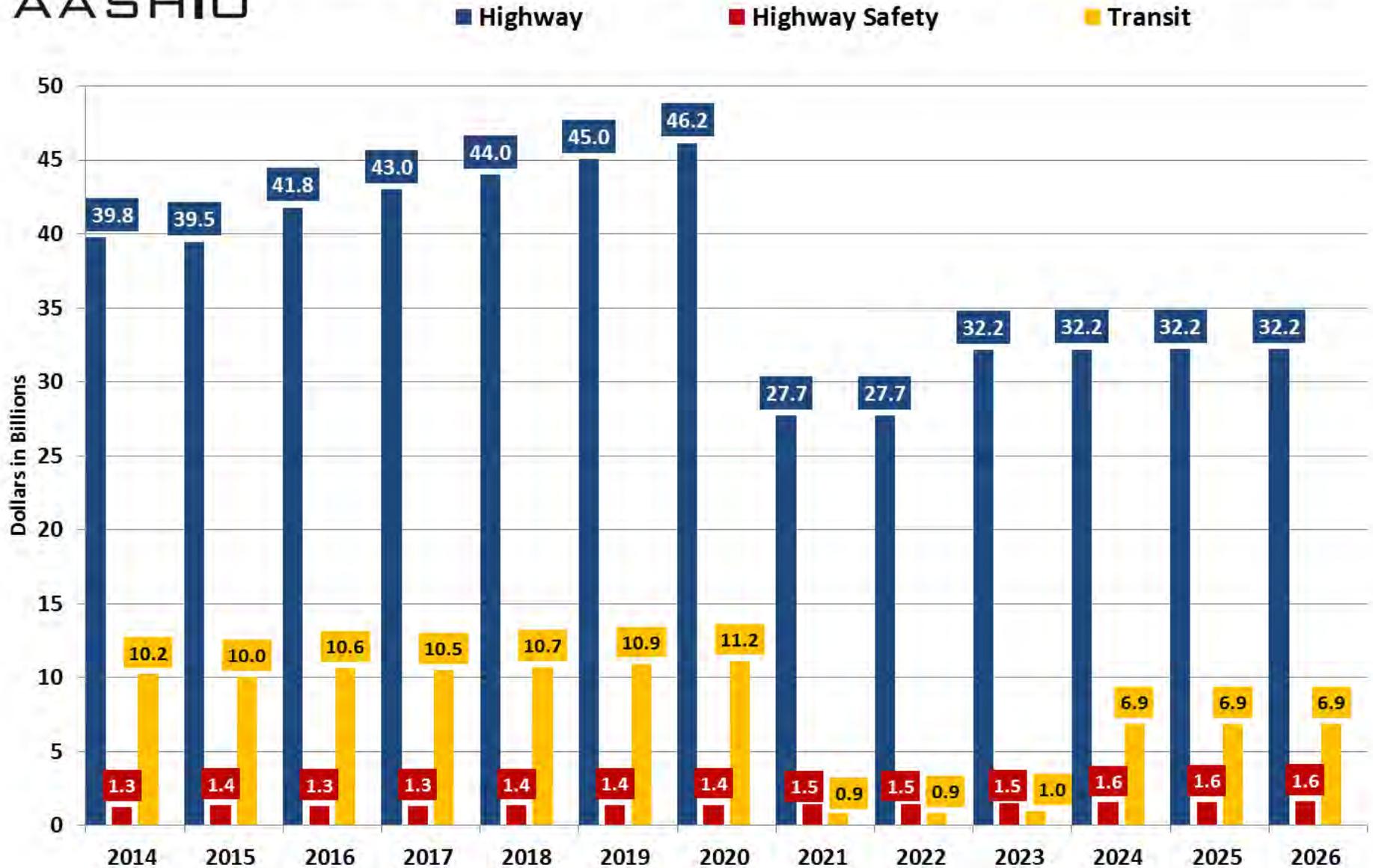
Gasoline Tax Rate*	Start Date	End Date	Days Since Last Adjustment	Years Since Last Adjustment
1	21-Jun-32	16-Jun-33	361	1.0
1.5	17-Jun-33	31-Dec-33	198	0.5
1	1-Jan-34	30-Jun-40	2,373	6.5
1.5	1-Jul-40	31-Oct-51	4,140	11.3
2	1-Nov-51	30-Jun-56	1,704	4.7
3	1-Jul-56	30-Sep-59	1,187	3.3
4	1-Oct-59	31-Mar-83	8,583	23.5
9	1-Apr-83	30-Nov-90	2,801	7.7
14	1-Dec-90	30-Sep-93	1,035	2.8
18.3	1-Oct-93	Ongoing	8,584**	23.5

* Cents per gallon. Reported tax rates do not include the 0.1 cent Leaking Underground Storage Tank (LUST) fee, which has occasionally been allowed to lapse.

** As of April 1, 2017

Source: Institute on Taxation and Economic Policy (ITEP) analysis of information from the Congressional Research Service (CRS).

ESTIMATED FEDERAL HIGHWAY TRUST FUND OBLIGATIONS



For illustrative purposes, this scenario assumes maintenance of a "minimum prudence balance" of \$4 billion in the Highway Account and \$1 billion in the Mass Transit Account.

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Matrix of Illustrative Surface Transportation Revenue Options

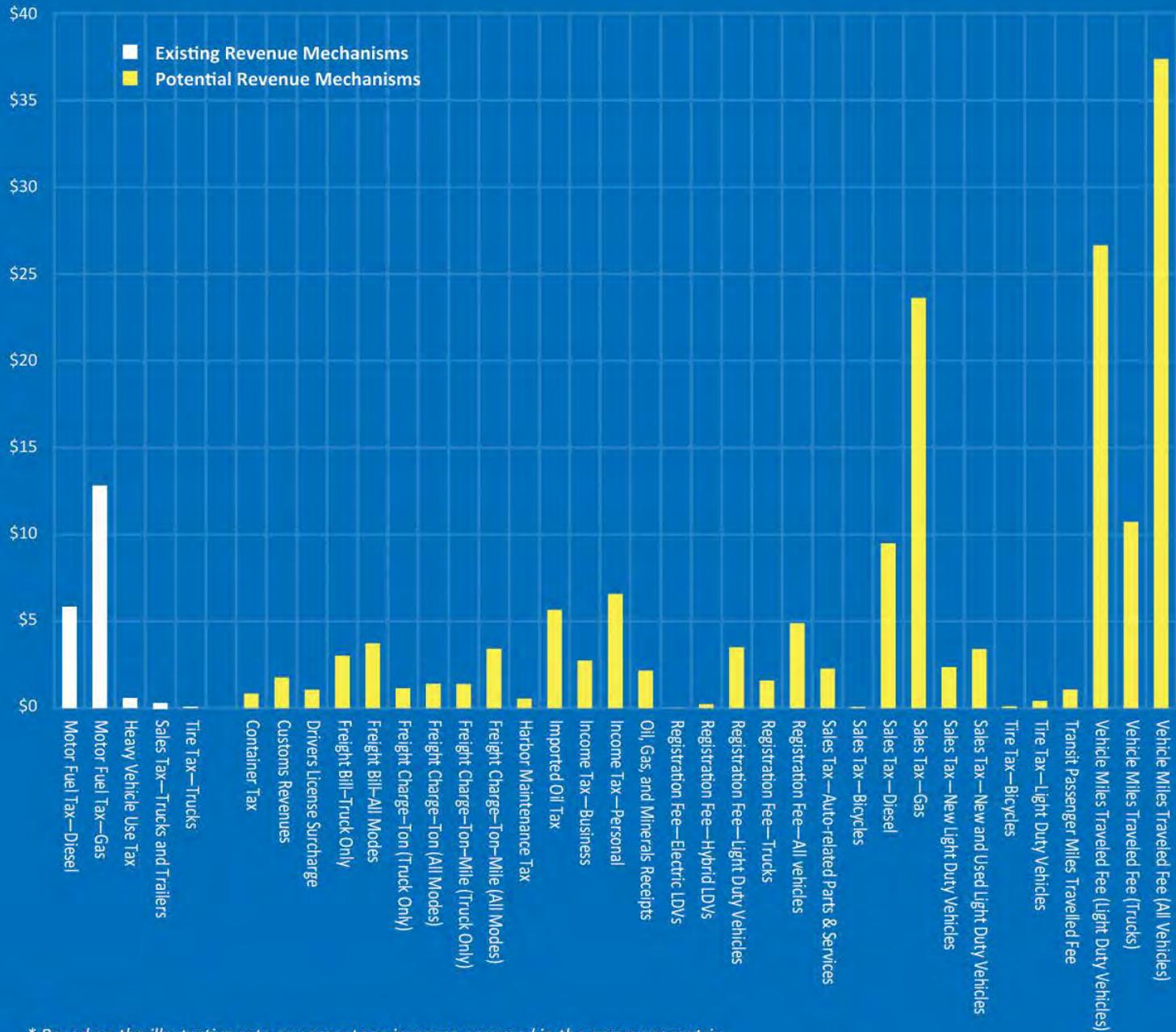
Existing Highway Trust Fund Revenue Mechanisms	Illustrative Rate or Percentage Increase	Definition of Mechanism/Increase	\$ in Billions	
			Assumed 2014 Yield	Total Forecast Yield 2015–2020
Motor Fuel Tax—Diesel	15.0¢	¢/gal increase in current rate (approx. 10% increase in total rate)	\$6.54	\$41.79
Motor Fuel Tax—Gas	10.0¢	¢/gal increase in current rate (approx. 10% increase in total rate)	\$13.21	\$78.12
Heavy Vehicle Use Tax	50%	Increase in current revenues, structure not defined	\$0.55	\$3.42
Sales Tax—Trucks and Trailers	10%	Increase in current revenues, structure not defined	\$0.33	\$2.19
Tire Tax—Trucks	10%	Increase in current revenues, structure not defined	\$0.04	\$0.23
Potential Highway Trust Fund Revenue Mechanisms	Illustrative Rate or Percentage Increase	Definition of Mechanism/Increase	Assumed 2014 Yield*	Total Escalated Yield 2015–2020*
Container Tax	\$15.00	Dollar per TEU	\$0.66	\$4.26
Customs Revenues	5.0%	Increase in/reallocation of current revenues, structure not defined	\$1.80	\$11.66
Drivers License Surcharge	\$5.00	Dollar annually	\$1.08	\$6.98
Freight Bill—Truck Only	0.5%	Percent of gross freight revenues (primary shipments only)	\$3.07	\$19.90
Freight Bill—All Modes	0.5%	Percent of gross freight revenues (primary shipments only)	\$3.80	\$24.60
Freight Charge—Ton (Truck Only)	10.0¢	¢/ton of domestic shipments	\$1.17	\$7.54
Freight Charge—Ton (All Modes)	10.0¢	¢/ton of domestic shipments	\$1.44	\$9.29
Freight Charge—Ton-Mile (Truck Only)	0.10¢	¢/ton-mile of domestic shipments	\$1.41	\$9.15
Freight Charge—Ton-Mile (All Modes)	0.10¢	¢/ton-mile of domestic shipments	\$3.48	\$22.52
Harbor Maintenance Tax	25.0%	Increase in/reallocation of current revenues, structure not defined	\$0.43	\$2.79
Imported Oil Tax	\$2.50	Dollar/barrel	\$5.76	\$37.28
Income Tax—Business	1.0%	Increase in/reallocation of current revenues, structure not defined	\$2.79	\$18.06
Income Tax—Personal	0.5%	Increase in/reallocation of current revenues, structure not defined	\$6.70	\$43.36
Motor Fuel Tax Indexing to CPI—Diesel	–	¢/gal excise tax	–	\$5.22
Motor Fuel Tax Indexing to CPI—Gas	–	¢/gal excise tax	–	\$10.87

Matrix of Illustrative Surface Transportation Revenue Options

Potential Highway Trust Fund Revenue Mechanisms	Illustrative Rate or Percentage Increase	Definition of Mechanism/Increase	Assumed 2014 Yield*	Total Escalated Yield 2015–2020*
Oil, Gas, and Minerals Receipts	25.0%	Increase in/reallocation of current revenues, structure not defined	\$2.20	\$14.25
Registration Fee—Electric LDVs	\$100.00	Dollar annually	\$0.01	\$0.06
Registration Fee—Hybrid LDVs	\$50.00	Dollar annually	\$0.17	\$1.12
Registration Fee—Light Duty Vehicles	\$15.00	Dollar annually	\$3.57	\$23.11
Registration Fee—Trucks	\$150.00	Dollar annually	\$1.63	\$10.54
Registration Fee—All vehicles	\$20.00	Dollar annually	\$4.98	\$32.21
Sales Tax—Auto-related Parts & Services	1.0%	Percent of sales	\$2.32	\$15.04
Sales Tax—Bicycles	1.0%	Percent of sales	\$0.06	\$0.38
Sales Tax—Diesel	7.6%	Percent of sales (excl. excise taxes)	\$9.65	\$62.50
Sales Tax—Gas	5.6%	Percent of sales (excl. excise taxes)	\$24.05	\$155.66
Sales Tax—New Light Duty Vehicles	1.0%	Percent of sales	\$2.41	\$15.61
Sales Tax—New and Used Light Duty Vehicles	1.0%	Percent of sales	\$3.46	\$22.40
Tire Tax—Bicycles	\$2.50	Dollar per bicycle tire	\$0.08	\$0.53
Tire Tax—Light Duty Vehicles	1.0%	Of sales of LDV tires	\$0.33	\$2.12
Transit Passenger Miles Traveled Fee	1.5¢	¢/passenger mile traveled on all transit modes	\$0.84	\$5.45
Vehicle Miles Traveled Fee—Light Duty Vehicles	1.0¢	¢/LDV vehicle mile traveled on all roads	\$27.12	\$175.58
Vehicle Miles Traveled Fee—Trucks	4.0¢	¢/truck vehicle mile traveled on all roads	\$10.93	\$70.73
Vehicle Miles Traveled Fee—All Vehicles	—	¢/vehicle mile traveled on all roads	\$38.05	\$246.31

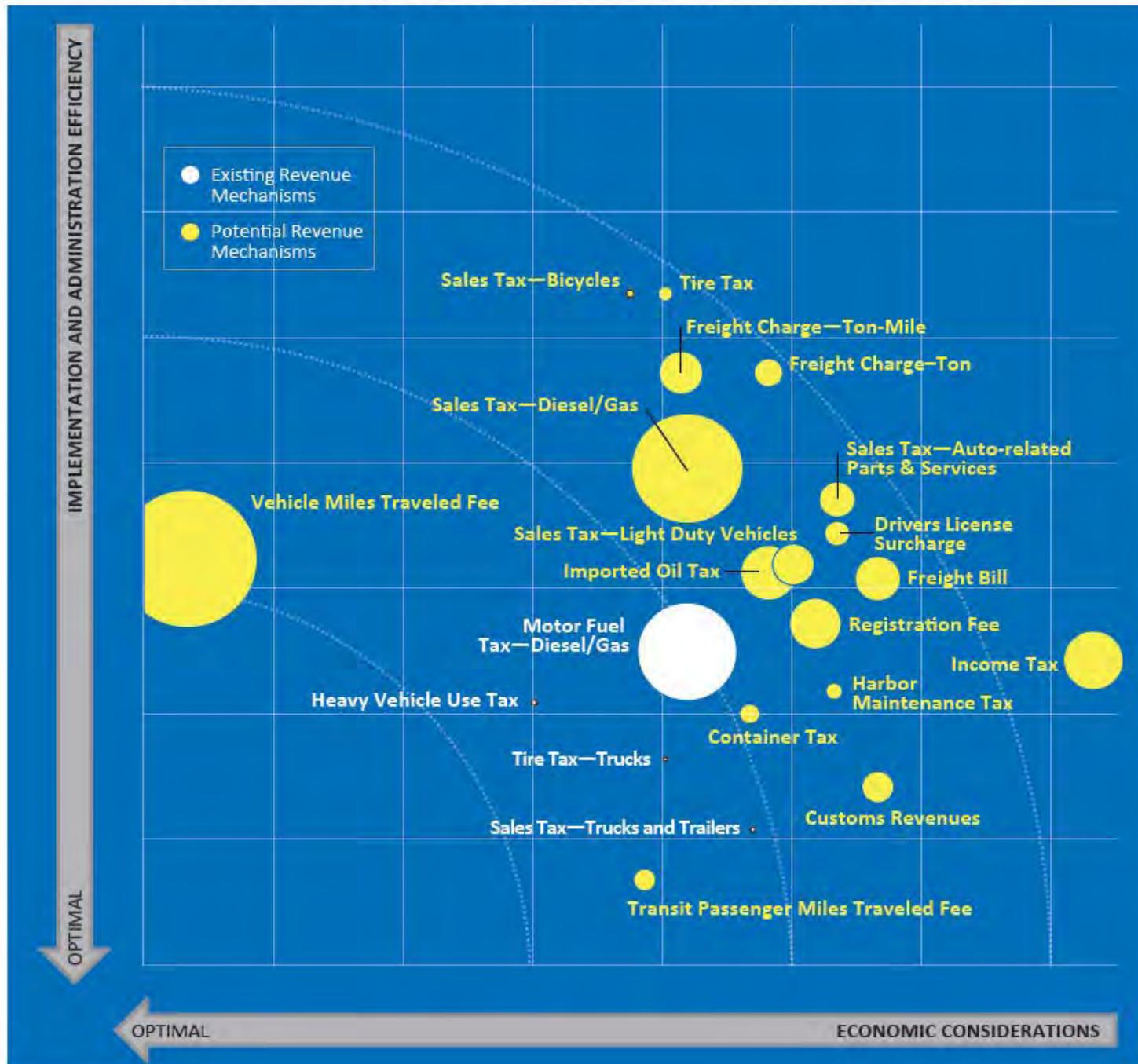
* Base annual yield escalated using CPI-U.

Surface Transportation Revenue Options: Illustrative Annual Estimated Yields (\$ in billions) *



* Based on the illustrative rate or percentage increase assumed in the summary matrix.

Policy Optimality Considerations for Federal Revenue Options (\$ in billions)



THE INFRASTRUCTURE PACKAGE



HOW WE GOT HERE

November 2015

\$275 billion proposal

That's why Hillary Clinton is announcing a five-year \$275 billion dollar infrastructure plan.

Clinton would increase federal infrastructure funding by \$275 billion over a five-year period, fully paying for these investments through business tax reform. Of these funds, she would allocate \$250 billion to direct public investment. She would allocate the other \$25 billion to a national infrastructure bank, dedicated to advancing our competitive advantage for the 21st century economy. The bank would leverage its \$25 billion in funds to support up to an additional \$225 billion in direct loans, loan guarantees, and other forms of credit enhancement —meaning that Clinton's infrastructure plan would in total result in up to \$500 billion in federally supported investment. The bank would also administer part of a renewed and expanded Build American Bonds program, and would look for opportunities to work with partners in the private sector to get the best possible outcomes for the American people.



HOW WE GOT HERE

August 2016

\$550 billion proposal

Donald Trump Proposes to Double Hillary Clinton's Spending on Infrastructure

By ALAN RAPPEPORT AUG. 2, 2016



HOW WE GOT HERE

October 2016

\$1 trillion proposal

An analysis by Wilbur Ross, a private equity investor, and Peter Navarro, UC-Irvine business professor. Both are senior policy advisors to the Trump campaign.

We believe that this tax credit-assisted program could help finance up to a trillion dollars' worth of projects over a ten-year period. This innovative financing option would serve as a critical supplement to existing financing programs, public-private partnerships, Build America Bonds, and other prudent funding opportunities.



HOW WE GOT HERE

June 2017

REBUILD AMERICA'S Infrastructure

BY THE NUMBERS

 **\$200 Billion**
INFRASTRUCTURE FUNDING

 **\$15 Billion**
FOR TRANSFORMATIVE PROJECTS

 **8 Year Reduction**
IN PERMIT PROCESS TIME

 **\$100 Billion**
FOR LOCAL PRIORITIZATION OF
INFRASTRUCTURE NEEDS

 **\$25 Billion**
FOR RURAL INFRASTRUCTURE

 **1 Million Apprentices**
IN 2 YEARS



INFRASTRUCTURE ASSET CLASSES

AIR TRAFFIC CONTROL

DAMS AND LEVEES

ROADS AND BRIDGES

PASSENGER RAIL AND TRANSIT

WATER AND WASTEWATER

AIRPORTS

GOVERNMENT HOUSING AND BUILDINGS

TELECOM

ELECTRIC TRANSMISSION

PIPELINES

FREIGHT RAIL

PORTS AND WATERWAYS

BROADBAND

PRISONS

SOCIAL INFRASTRUCTURE: SCHOOLS, HOSPITALS, PARKS

REAL ESTATE

POWER GENERATION

OIL EXPLORATION AND PRODUCTION

LESS FEDERAL INFLUENCE



TRUMP ADMINISTRATION'S PRINCIPLES

- Make Targeted Federal Investments
- Encourage Self-Help
- Align Infrastructure Investment with Entities Best Suited to Provide Sustained and Efficient Investment
- Leverage the Private Sector



THE IDEAL PACKAGE

- Fix the Highway Trust Fund for the long term
- Provide substantial share of the package to transportation infrastructure
- Provide direct funding and not just financing tools
- Streamline project delivery by assigning federal authorities to states wherever appropriate
- Focus on projects with long-term economic and quality of life benefits and not just “shovel-ready” projects
- Rely on the existing program framework rather than a top-down structure where the federal government picks projects





STATE EFFORTS TO INCREASE TRANSPORTATION INVESTMENT



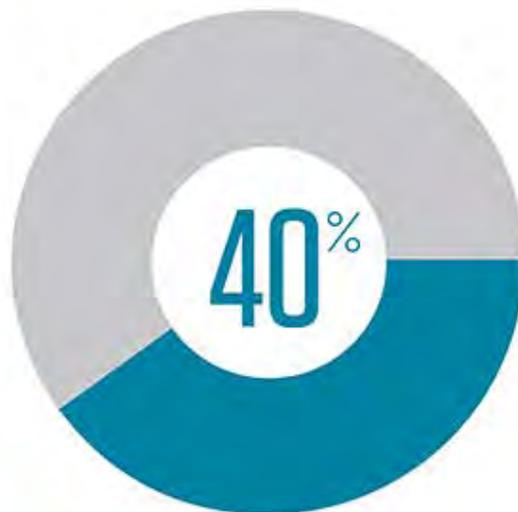


All Levels of Government Fund Highways and Transit

Average annual own-source spending by level of government, 2008-12



Federal
\$54 billion



State
\$84 billion



Local
\$75 billion

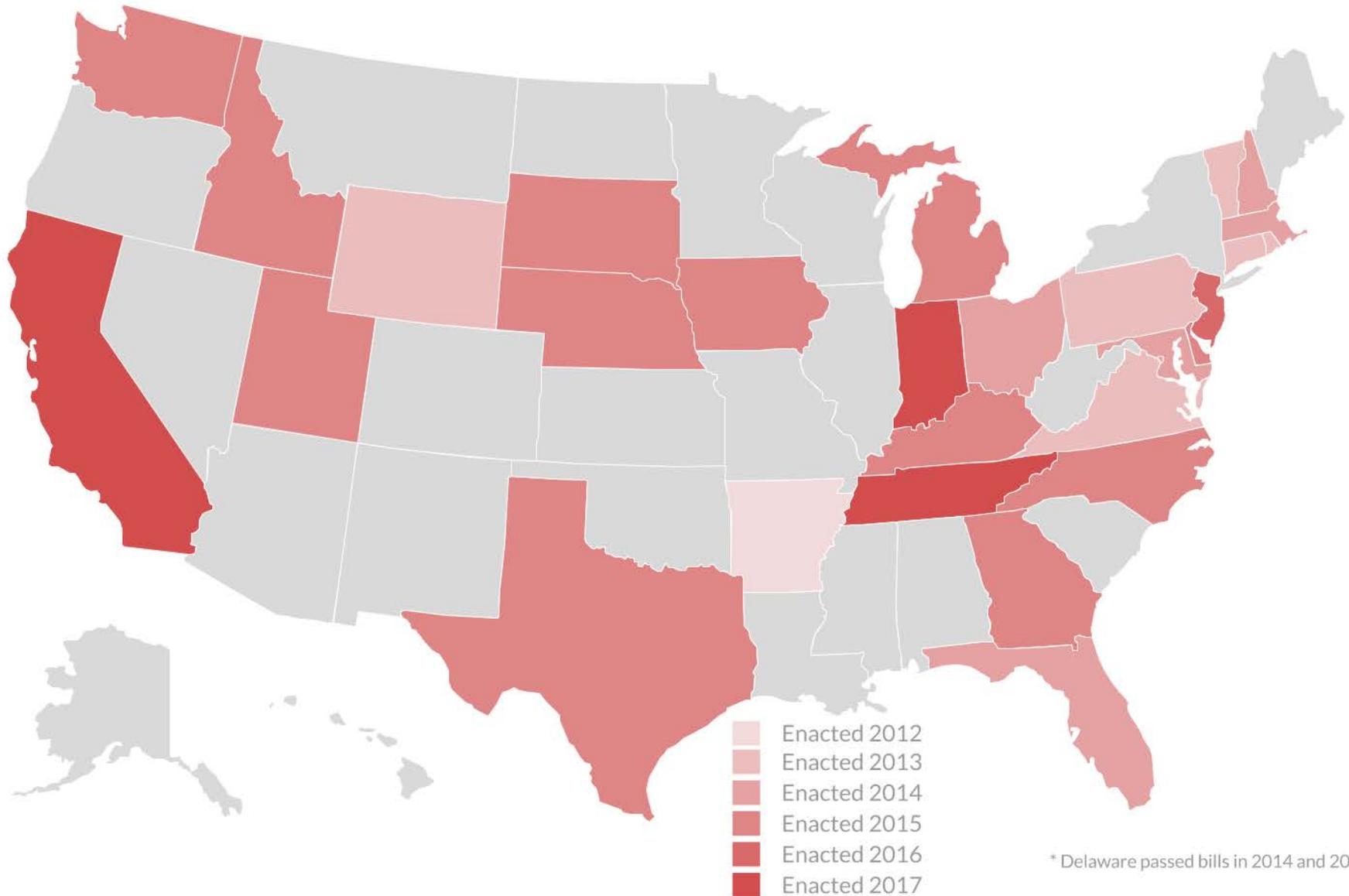
Source: Pew's analysis of U.S. Census Bureau's Annual Survey of State and Local Government Finances, 2008-12; U.S. Office of Management and Budget, Public Budget Database

© 2015 The Pew Charitable Trusts



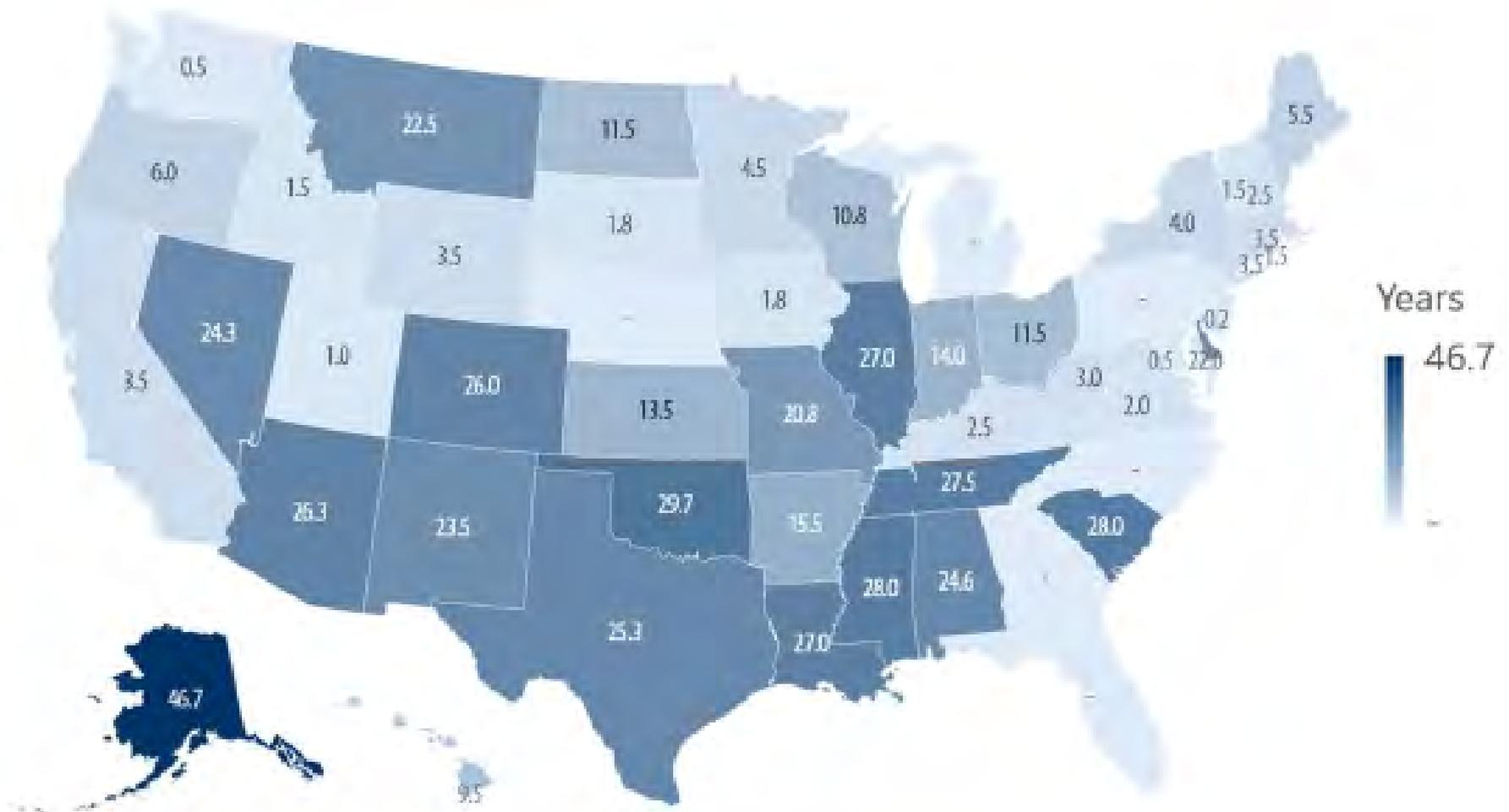


Successful state plans to raise additional transportation revenue, 2012-



Years Since Last Gasoline Tax Increase

As of January 1, 2017



Source: Institute on Taxation and Economic Policy (ITEP)

54 STATE REVENUE SOURCES

- ❑ Fuel Taxes
- ❑ Sales Taxes on Fuel
- ❑ Vehicle or Rental Car Sales Tax
- ❑ Vehicle Registration
- ❑ Weight Fees
- ❑ Traffic Camera Fees
- ❑ Tolls
- ❑ General Funds
- ❑ Interest Income
- ❑ Inspection Fees
- ❑ Advertising
- ❑ Impact Fees
- ❑ License or Permit Fees
- ❑ State Lottery
- ❑ Excise Taxes
- ❑ Board Funding Obligations
- ❑ Ad Valorem Taxes
- ❑ Sales Tax
- ❑ Congestion Pricing
- ❑ Oil Company Taxes
- ❑ Fares
- ❑ Documentary Stamp Revenue
- ❑ Logo Signing
- ❑ Situs Tax
- ❑ Rail Service Fees
- ❑ Toll Road Leases
- ❑ Use Tax
- ❑ Weight-distance Tax
- ❑ Fines
- ❑ Corporate Taxes
- ❑ Container Fees
- ❑ Land Sales
- ❑ Advertising Revenue
- ❑ Service Payments
- ❑ Contractor's Tax
- ❑ Oil Tax
- ❑ Rail Regulation Fees
- ❑ Investment Income
- ❑ Trail-mile Tax
- ❑ Surcharge Fees
- ❑ Payroll Tax
- ❑ Right-of-way
- ❑ Service Concessions
- ❑ Loan Repayment
- ❑ Loan Fees
- ❑ Private Contributions
- ❑ Tobacco Tax
- ❑ Mass-Transit Tax
- ❑ VMT Fees
- ❑ Highway Litter Control Fund
- ❑ Mineral Royalties
- ❑ Short-term Lease/Borrowing
- ❑ Public space Revenue
- ❑ Parking Meters





MAKING THE VALUE PROPOSITION FOR TRANSPORTATION INVESTMENT



MAKING THE VALUE PROPOSITION



Question: How much does the typical vehicle pay in gas tax in a year?

Probably six thousand, seven thousand dollars a year

MAKING THE VALUE PROPOSITION



Question: How much does the typical vehicle pay in gas tax in a year?

Answer: \$293 in federal and state gas taxes per vehicle per year

MAKING THE VALUE PROPOSITION



Question: How much does the typical vehicle pay in gas tax in a year?

Another way to put it...

Average household pays \$46 in federal and state gas tax per month. This is less than per monthly cost of:

- **Electricity and gas: \$160**
- **Cell phone: \$161**
- **Cable and internet access: \$124**



SOME COMMON THEMES BEHIND STATE SUCCESS STORIES

- Transportation problems are clearly demonstrated and relatable to the public
- Benefits of proposed investment are made clear
- Broad coalition of support beyond self-interest groups
- Commitment to accountability and performance, aka “Reform”
- Agenda prioritization from the executive branch and legislative branch



MISSOURI CITIZENS GUIDE



MONTHLY COSTS OF ADDITIONAL BENEFITS

The average driver in Missouri pays \$29.91 per month in federal and state taxes/fees to support Missouri's system of roads and bridges.

Based on 13,476 miles driven per year at 21.4 mpg, plus the average motor vehicle sales tax per driver.

Additional Investments Needed to Improve Missouri's Transportation System



OREGON “OReGO” Fee

How does the road usage charge compare with paying the fuel tax?

Let's take a look!

We compared these two models:

2014 Toyota Prius



50 mpg
combined fuel economy

2014 Ford F-150



18 mpg
combined fuel economy

The average Oregonian drives **12,962** miles each year.
The average price of gas in Oregon (including tax) is **\$2.876***

*as of April 20, 2013, based on www.oregonpumpprices.com

Amount of fuel used annually:



Total costs with fuel tax:

\$745.57

Includes \$77.77 state fuel tax

\$2,071.04

Includes \$216.03 state fuel tax

Total costs with road usage charge:

\$862.23

Includes \$194.43 road usage charge

\$2,049.43

Includes \$194.43 road usage charge

Difference: +\$116.66

The owner of the Prius pays a little more in road usage charge — \$9.72 per month — which is offset by significant savings in fuel, using 460.87 gallons less per year.

Difference: -\$21.60

If enrolled in the Road Usage Charge Program, the owner of the F-150 would earn a rebate of \$1.80 per month because fuels tax paid at the pump exceeds the road usage charge.

YOU TOO CAN GO FROM THIS...



DISCUSSION



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