



Joint Appropriations Committee on Transportation

Transportation Funding

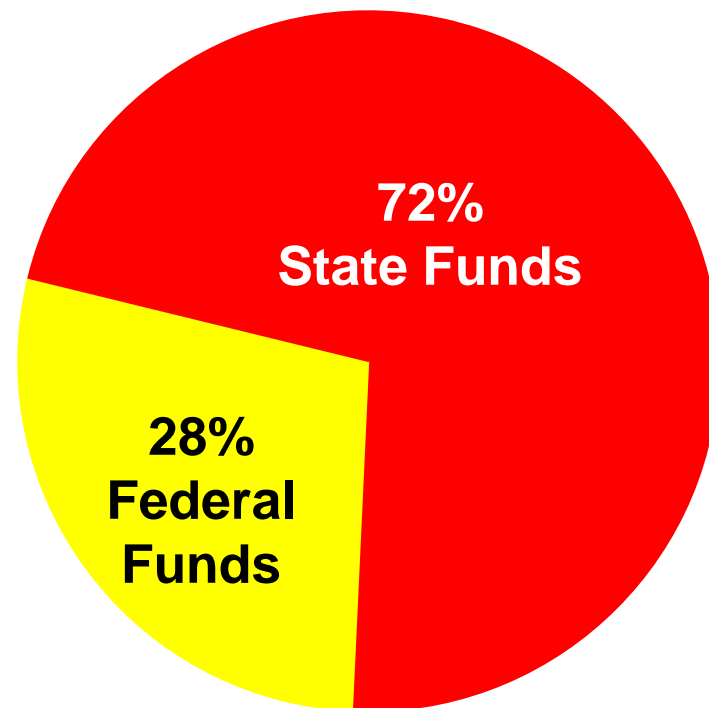
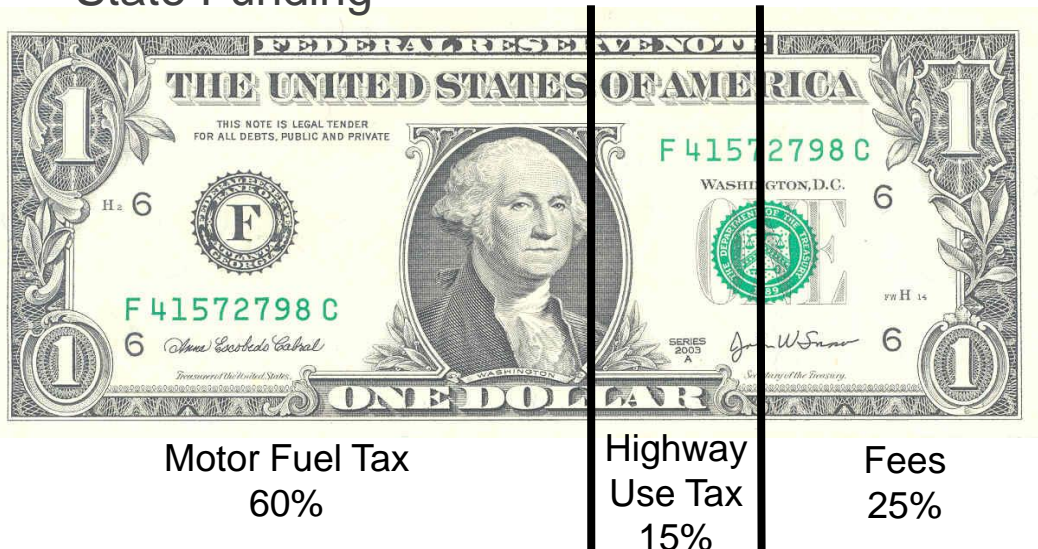
H. Tasaico, PE
February 18, 2015

Meeting Outline

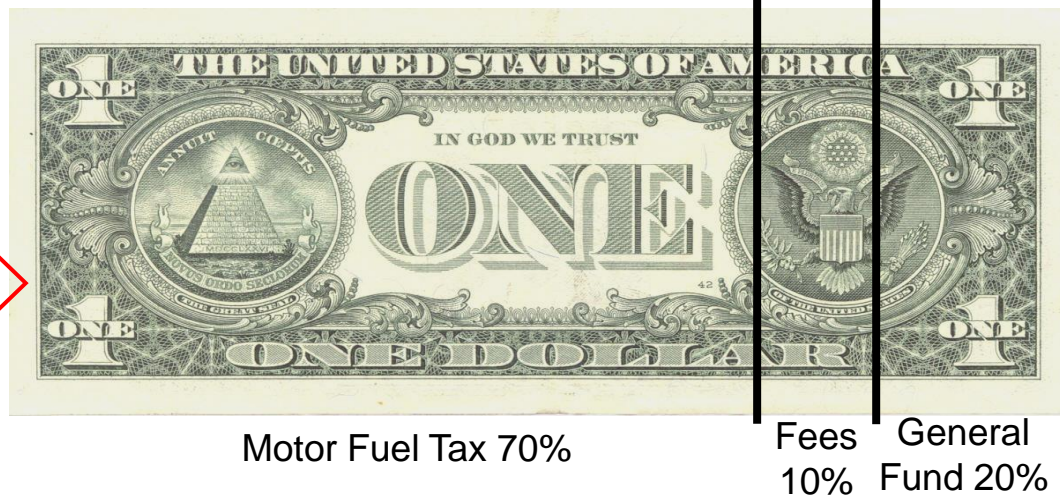
- State Transportation Funding Sources
 - Transportation Primer - Brief Recap
 - Revenue Outlook – 2 & 10 years
 - DMV Fee Structure
 - Comparison to VA, SC, TN & GA
 - Electric & Hybrid Vehicle Revenues
- Transportation Revenue in Other States
- Funding Options

Present Funding

State Funding



Federal Funding (since 2008)



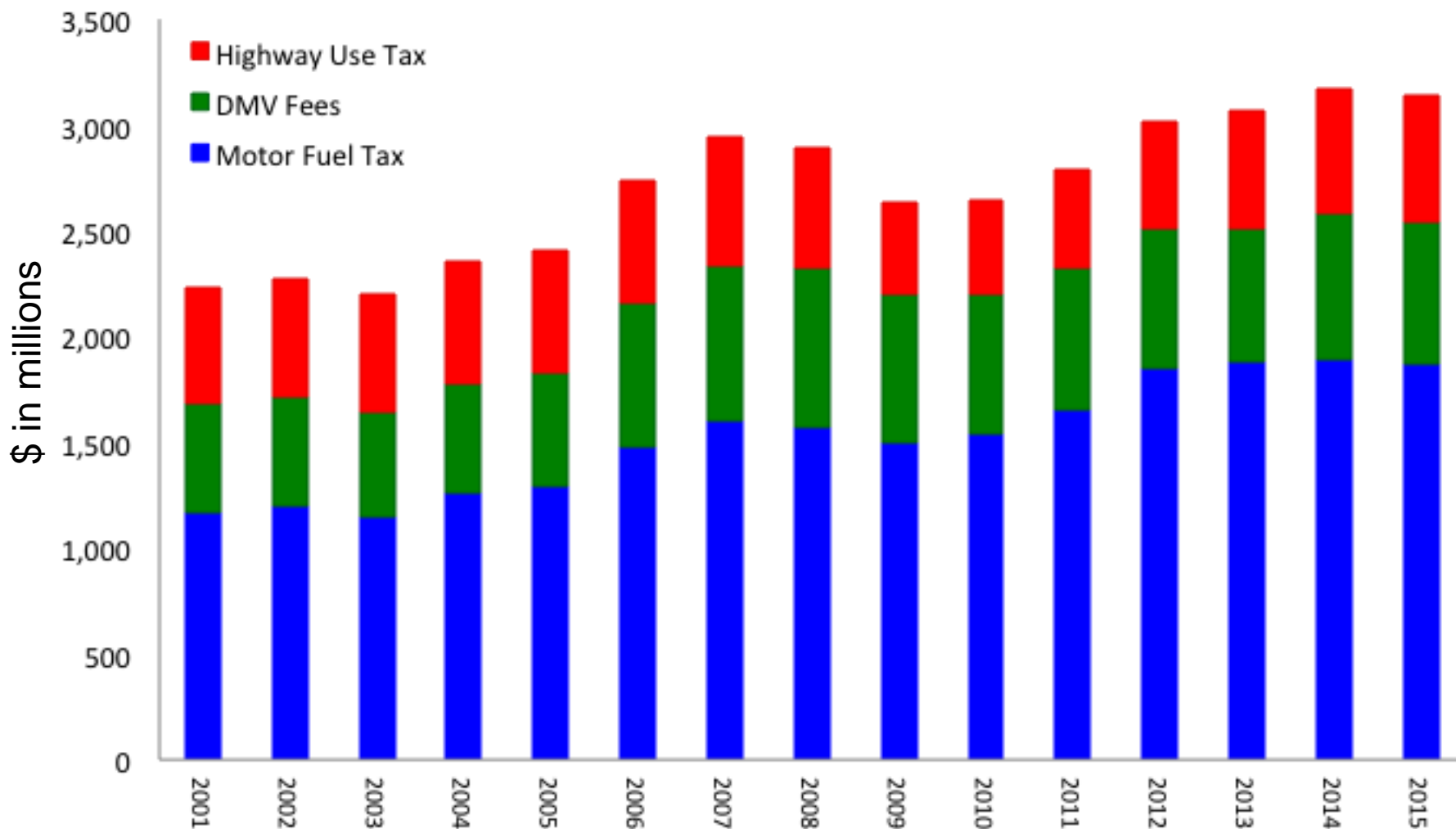
- No Political Appetite for National Solutions
- Up to States to Fix

Revenue Variable and Data Sources

Source	Variables	Data Sources
Motor Fuel Tax	Rate	<ul style="list-style-type: none"> • US – EIA • Global Insight • Legislative
	Fuel Consumption	<ul style="list-style-type: none"> • In-House Model
DMV Fees	Rate	<ul style="list-style-type: none"> • General Statute
	Transactions	<ul style="list-style-type: none"> • Regression Analysis • Historical • NC Population Growth
Highway Use Tax	Rate	<ul style="list-style-type: none"> • General Statute
	Transactions	<ul style="list-style-type: none"> • Historical • NC Population Growth
	Vehicle Pricing	<ul style="list-style-type: none"> • Global Insight
Federal	Revenue	<ul style="list-style-type: none"> • Congressional Budget Office

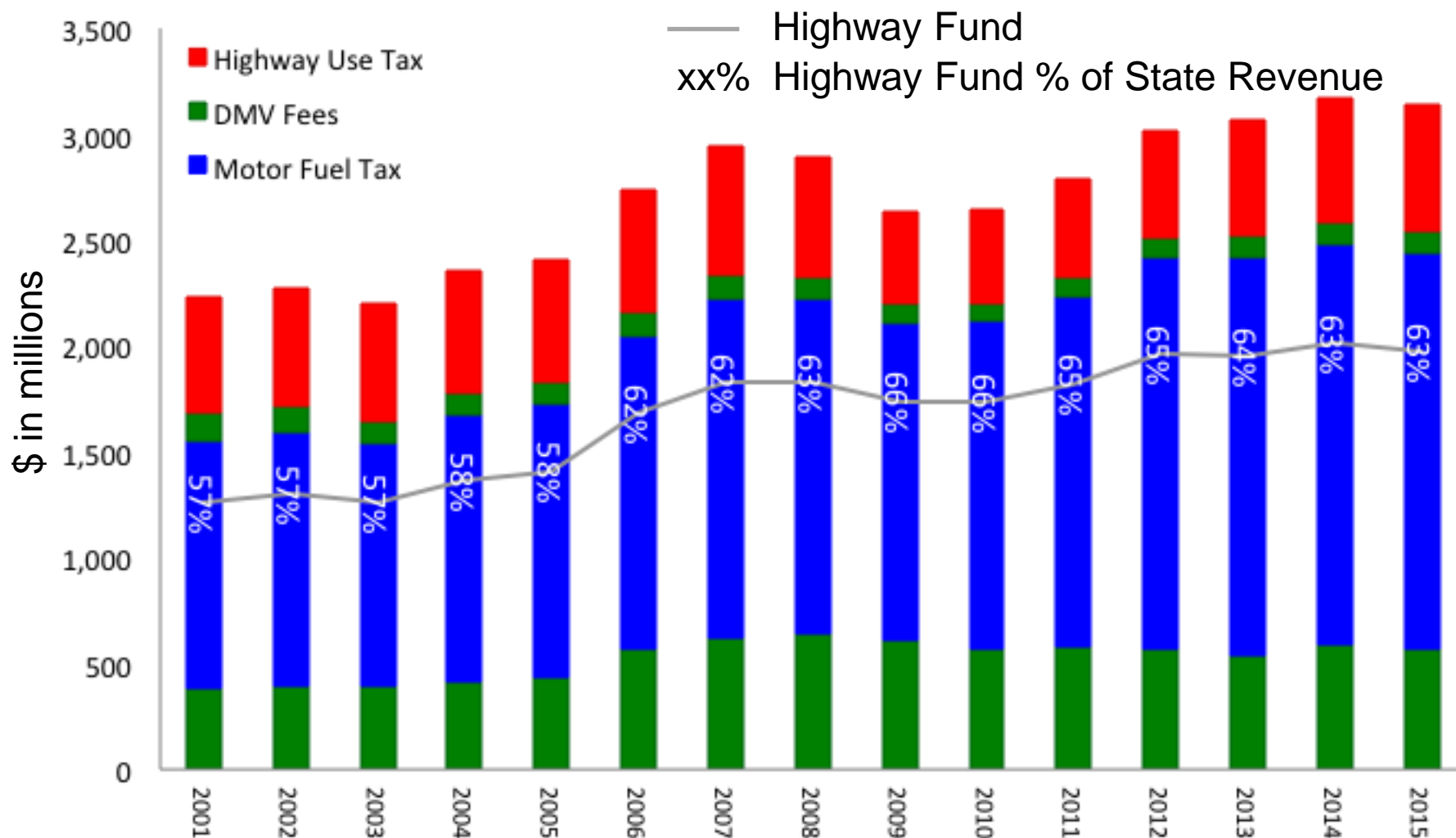
State Transportation Revenue Sources

(2001 - 2014 Actual & 2015 Estimated)



State Transportation Revenue Sources

(2001 - 2014 Actual & 2015 Estimated)



The chart displays two data series over time from January 2004 to January 2015. The left y-axis represents WTI (\$/bbl) from 0 to 140. The right y-axis represents the NC Rate (cpg) from 17.5 to 42.5. The WTI series (black line) shows a significant peak in mid-2008, reaching over 120 \$/bbl, followed by a sharp decline and subsequent fluctuations. The NC Rate series (green line) shows a general upward trend with several peaks and troughs, reaching a high of approximately 38 cpg in late 2008 and another peak around 37.5 cpg in early 2012.

Legend:

- WTI (\$/bbl)
- NC Rate (cpg)

Formula:

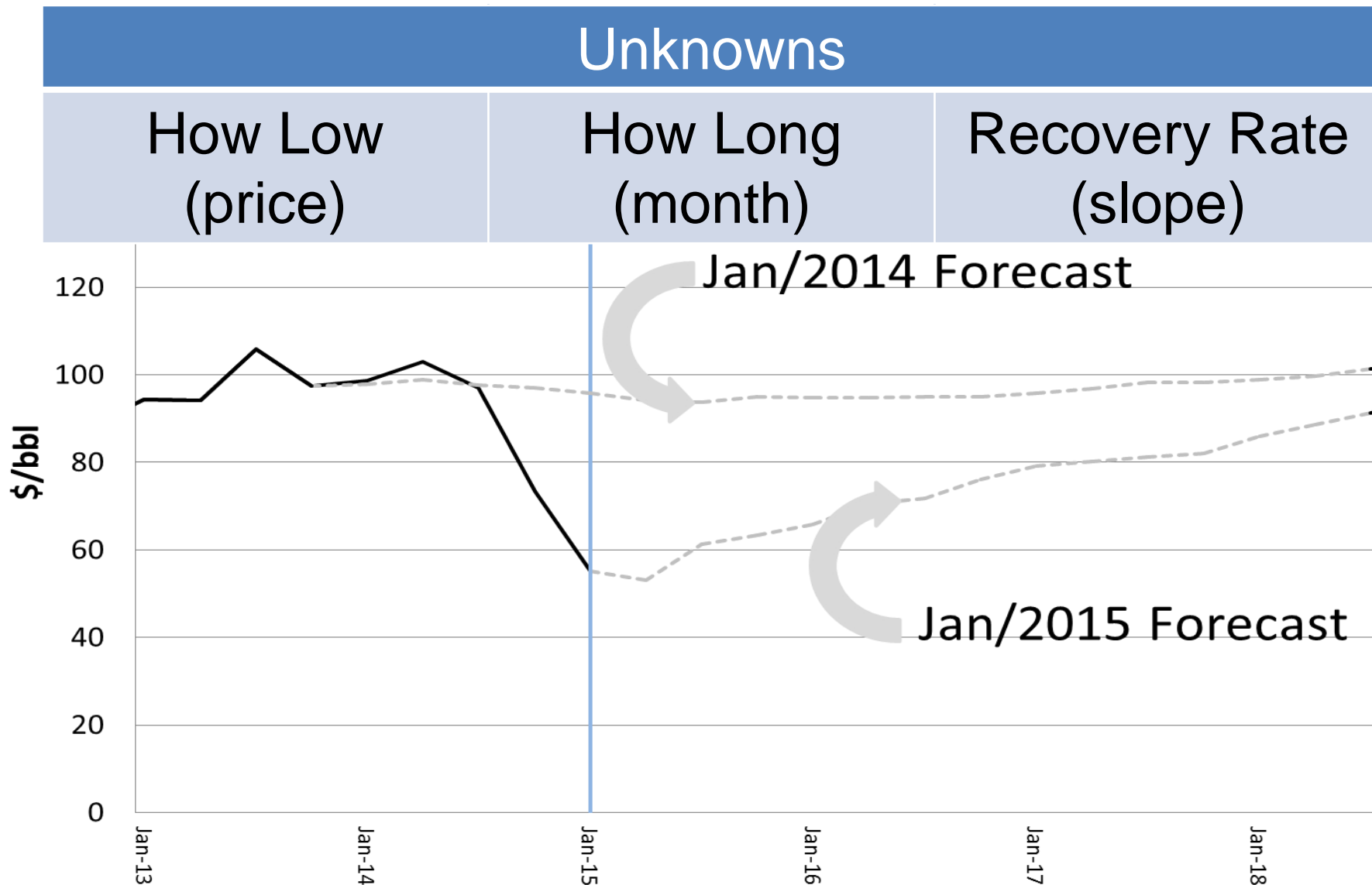
$$\frac{17.5 \text{ ¢}}{\text{Gallon}} + \left\{ > \left(\frac{3.5 \text{ ¢}}{\text{Gallon}} \text{ or } 7\% \text{ average wholesale price}^{12} \right) \right\}$$

Footnotes:


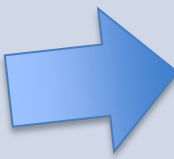








¹ Six-month periods ending September 30 and March 31

² US Department of Energy in the "Monthly Energy Review" finished motor gasoline and No. 2 diesel fuel

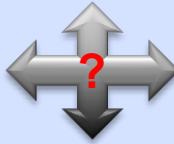







Crude Oil Forecast



Biennium – Sneak Preview (as of Jan/15)

	Rate	Volume	Price	Overall
Motor Fuel Taxes			n/a	
DMV Fees			n/a	
Highway Use Tax				
2015 % Change				-7% 2016 -4% 2017

Revenue Variable and Data Sources

Source	Variables	Data Sources	10 Year Change
Motor Fuel Tax	Rate	<ul style="list-style-type: none"> US – EIA Global Insight Legislative 	
	Fuel Consumption	<ul style="list-style-type: none"> In-House Model 	
DMV Fees	Rate	<ul style="list-style-type: none"> General Statute 	
	Transactions	<ul style="list-style-type: none"> Regression Analysis Historical NC Population Growth 	
Highway Use Tax	Rate	<ul style="list-style-type: none"> General Statute 	
	Transactions	<ul style="list-style-type: none"> Historical NC Population Growth 	
	Vehicle Pricing	<ul style="list-style-type: none"> Global Insight 	
Federal	Revenue	<ul style="list-style-type: none"> Congressional Budget Office 	

State Revenue Sources



Motor Fuel Tax
60%

Highway
Use
Tax 15%

Fees
25%

Truck
Registration

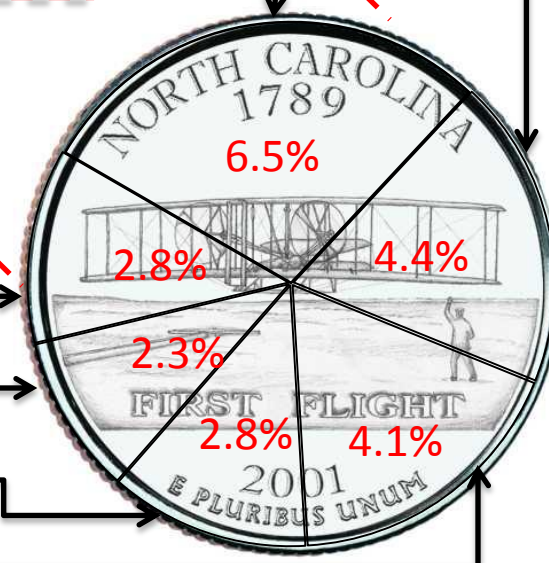
Vehicle
Registration

Other - 21 Fees

International Registration Plan

Certificate of Title

Driver Licenses



NC Driver and Vehicle Fees

NC General Statutes – Chapter 20

Found at <http://www.ncdot.gov/dmv/fees/>

25+ DMV Fee Revenue Categories

Single Revenue Category – multiple fees

Driver License Fees	Application	Class A	Class B	Class C	Learner Permit	Duplicate	Endorsement	Temporary	Provisional	Limited	Limited Provisional
Driver		X	X	X		X	X				
Learner					X	X	X				
Commercial	X	X	X	X	X	X	X				
Graduated						X		X	X	X	X

2014 Edition



YOUR DRIVING COSTS

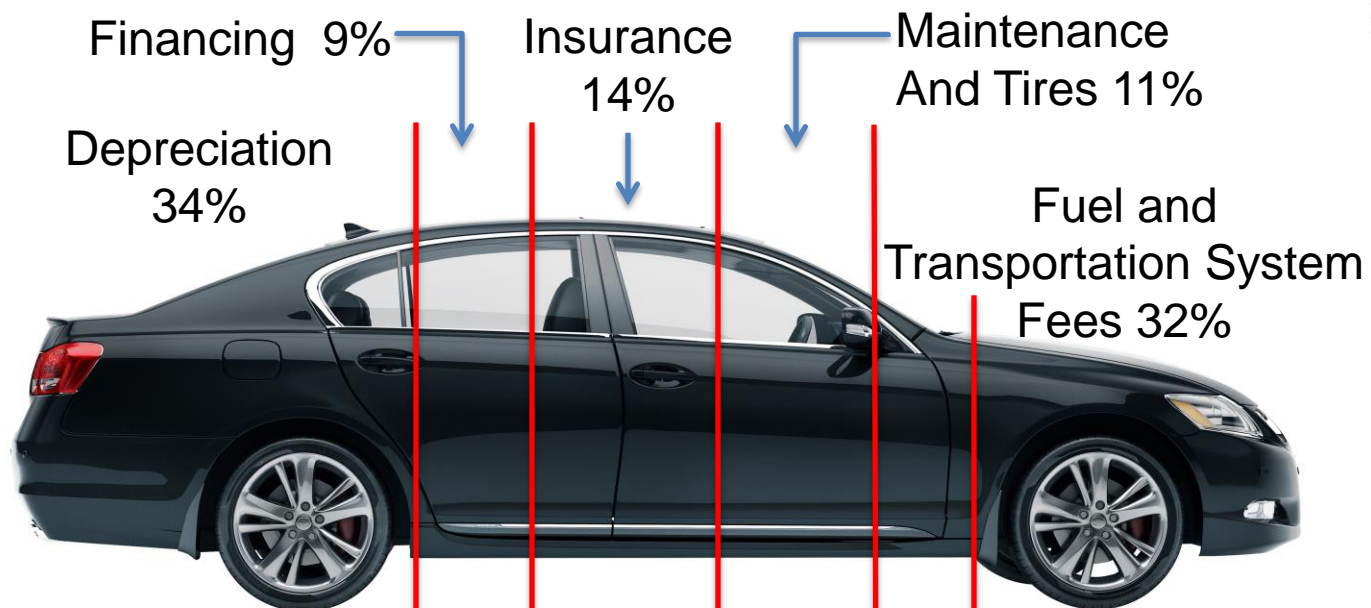
How much are you really
paying to drive?



nc > North Carolina
Chamber
A force for business.



Vehicle Ownership - \$7,100/year



Transportation System Fees (9%)	%	Annual
Fuel Taxes	66	\$422
DMV Fees	15	\$96
Civil Penalties	1	\$6
Highway Use Tax	13	\$83
Other	5	\$32
Total		\$640

Comparison – Annual Costs (\$)

	NC	VA	SC	TN	GA
Motor Fuel Tax – Gas (cpg)	36.5	19.88	16.0	20.0	26.53
Diesel (cpg)	36.5	23.38	16.0	17.0	30.1
Local (cpg)				1 .0	
Surcharge (%)					4
¹ Motor Fuel Tax Cost (\$)	419.25	152.23	120.00	150.75	206.93
Driver License (\$)	4.00	4.00	2.50	3.90	4.00
Title Fee (\$)	8.00	2.00	3.00	2.30	3.60
Local Tax (\$)				41.35	
Vehicle Registration	28.00	40.75	24.00	24.00	20.00
Highway Use Tax Rate (%)	3.00	4.05	5.00	7.00	7.00
Trade-In	Yes		Yes	Yes	Yes
Cap (\$)			300		
² Highway Use Tax Cost (\$)	150.00	243.00	60.00	350.00	350.00
Total (rounded)	\$464	\$442	\$210	\$572	\$585

Assumptions

¹Mileage 15,000

¹MPG 20

²Vehicle Price \$30,000

²Trade-in \$5,000

²Ownership (years) 5

NC Vehicle Registration – 2014

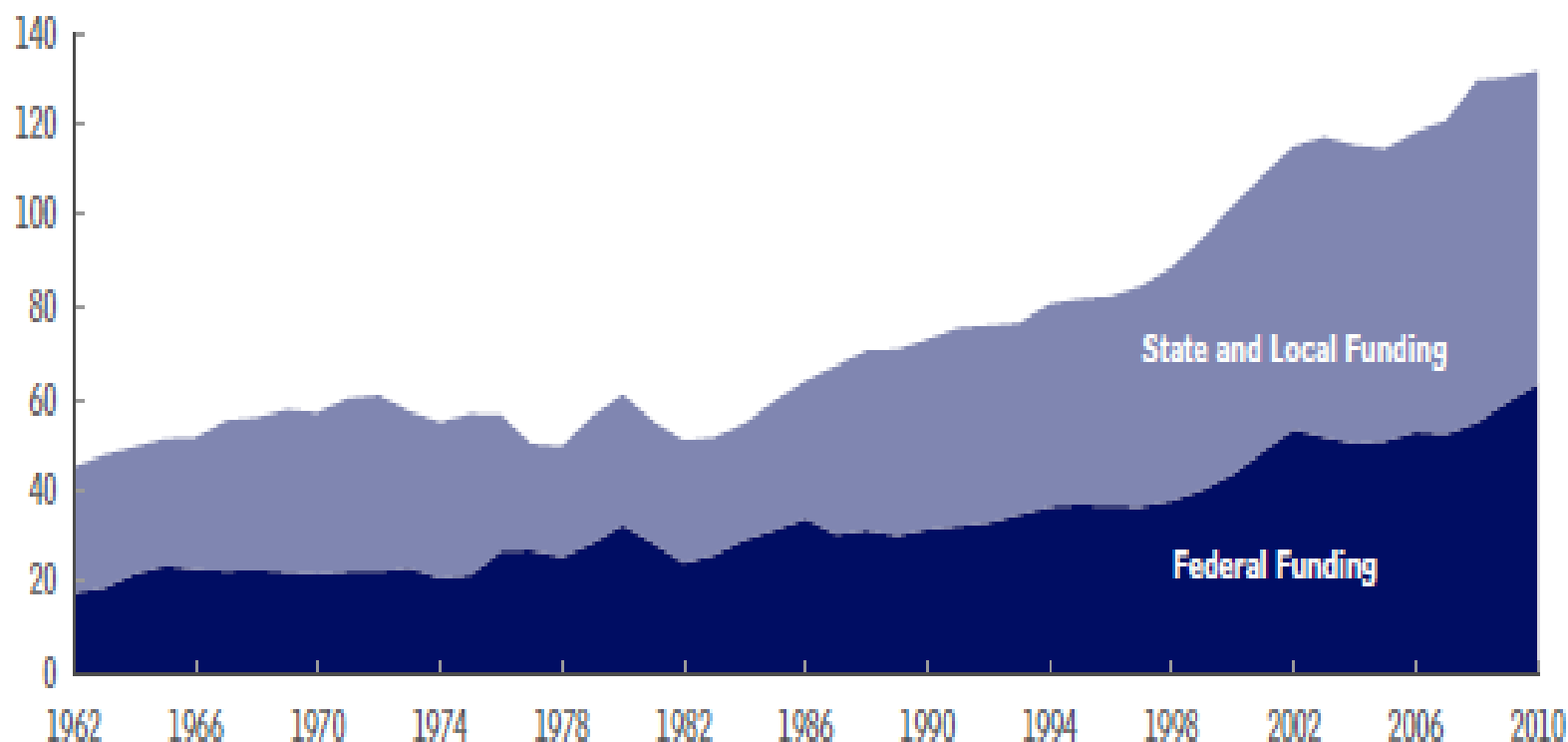
Approximately 8.8 million vehicles

- 66% Autos
- 20% Trucks ($\approx 50\%$ <4,000 lbs.)
- 11% Trailers
- 3% Other (motorcycles, RV, buses, etc.)

Vehicle Type	2014	Annual Increase	
	Approx.	2009-14	2015-20
Electric	2,000	40%	11%
Hybrid	40,000	30%	8%

Transportation Infrastructure Investment

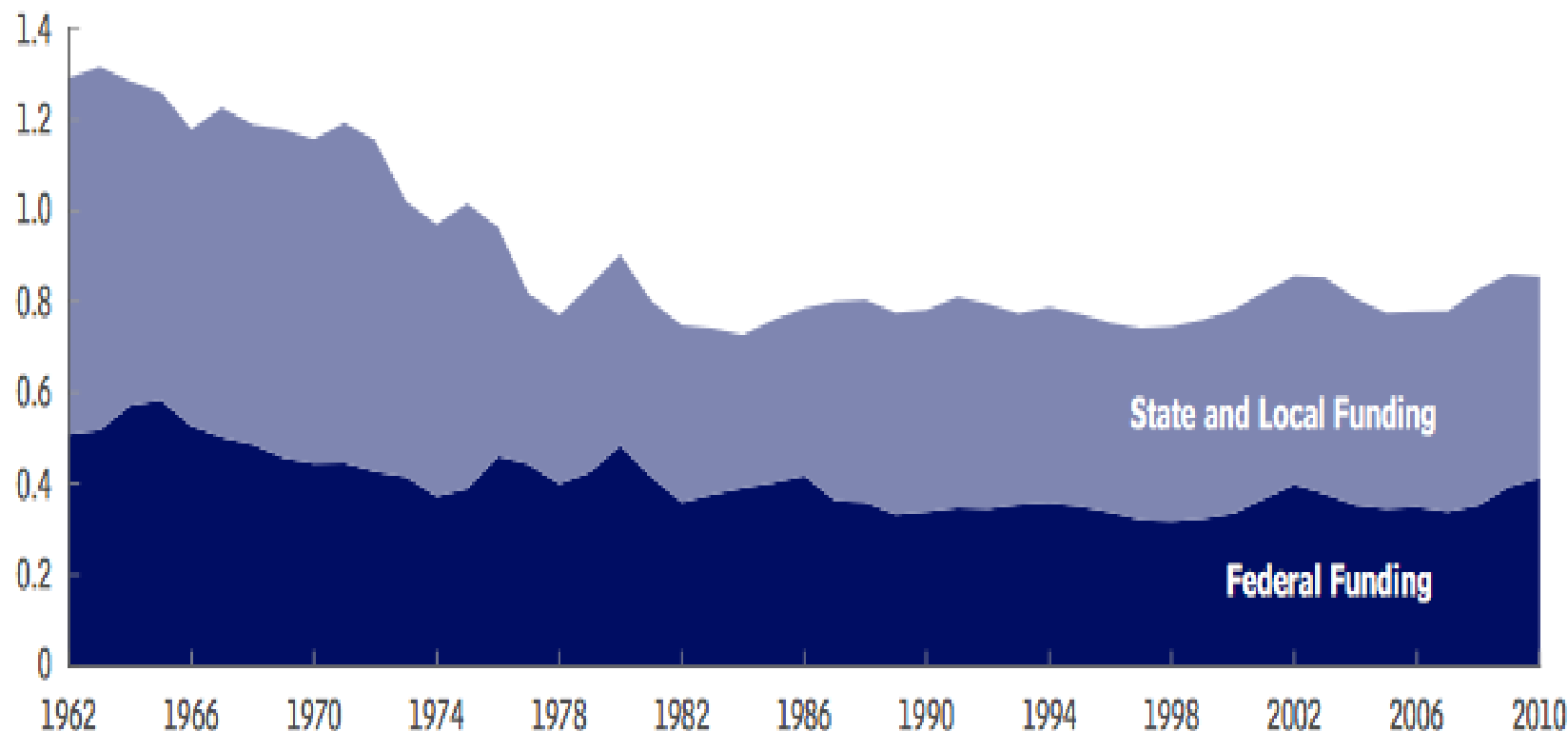
Billions of 2012 Dollars



CBO – December 2013

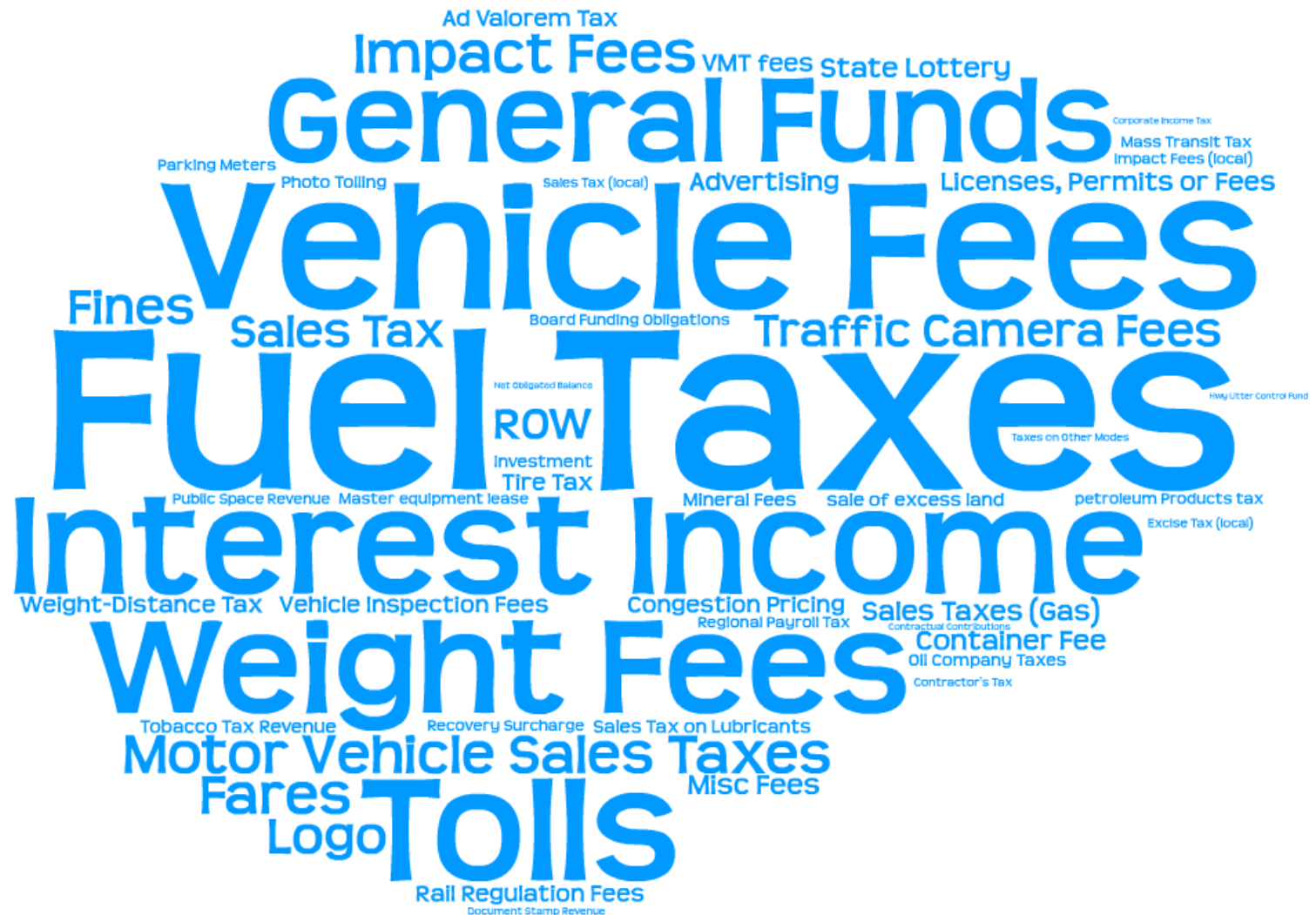
Growing Funding Need

Percentage of Gross Domestic Product

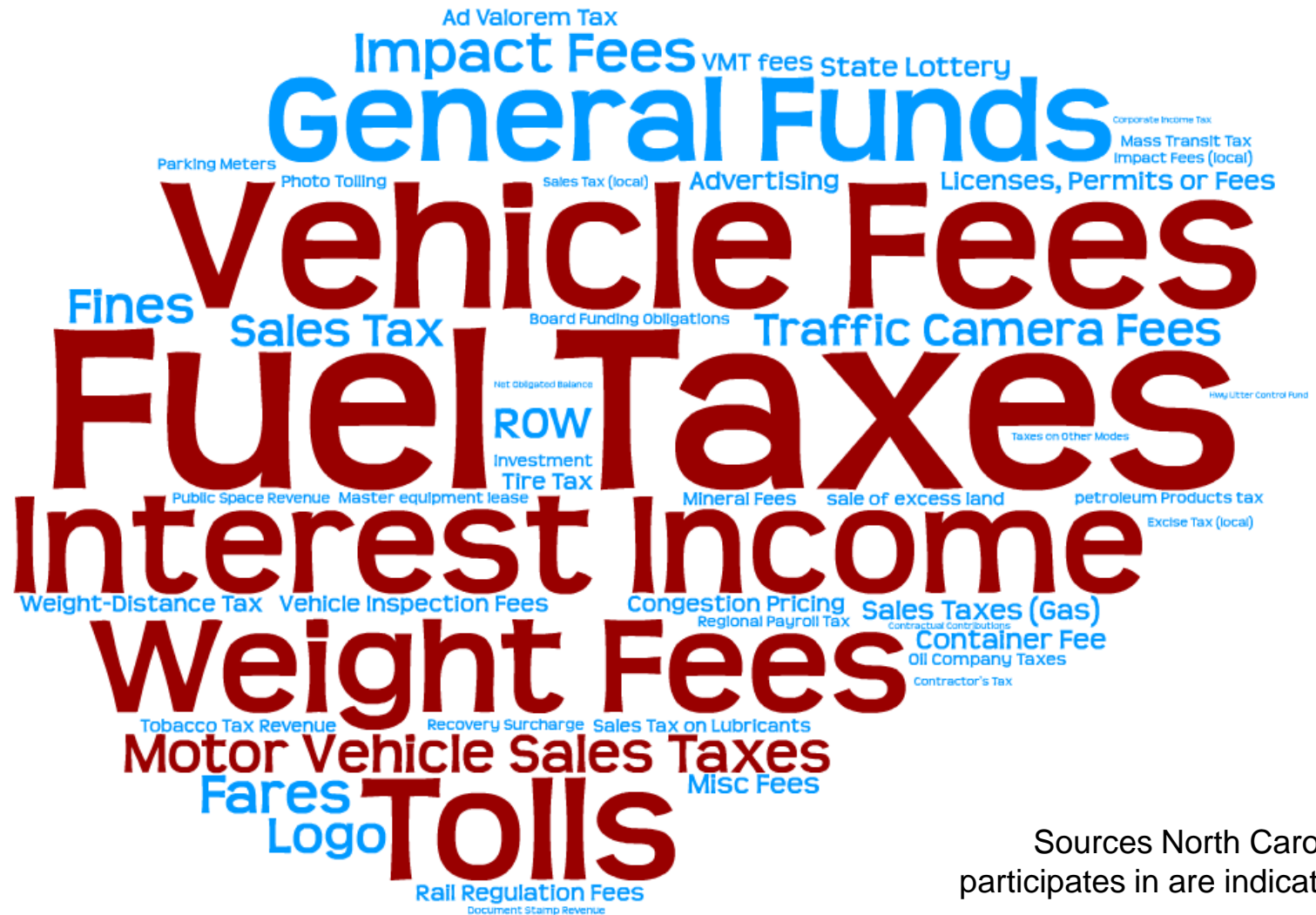


CBO – December 2013

State Revenue Sources



State Revenue Sources



Sources North Carolina
participates in are indicated in red

States are Seeking Transportation Funding and Finance

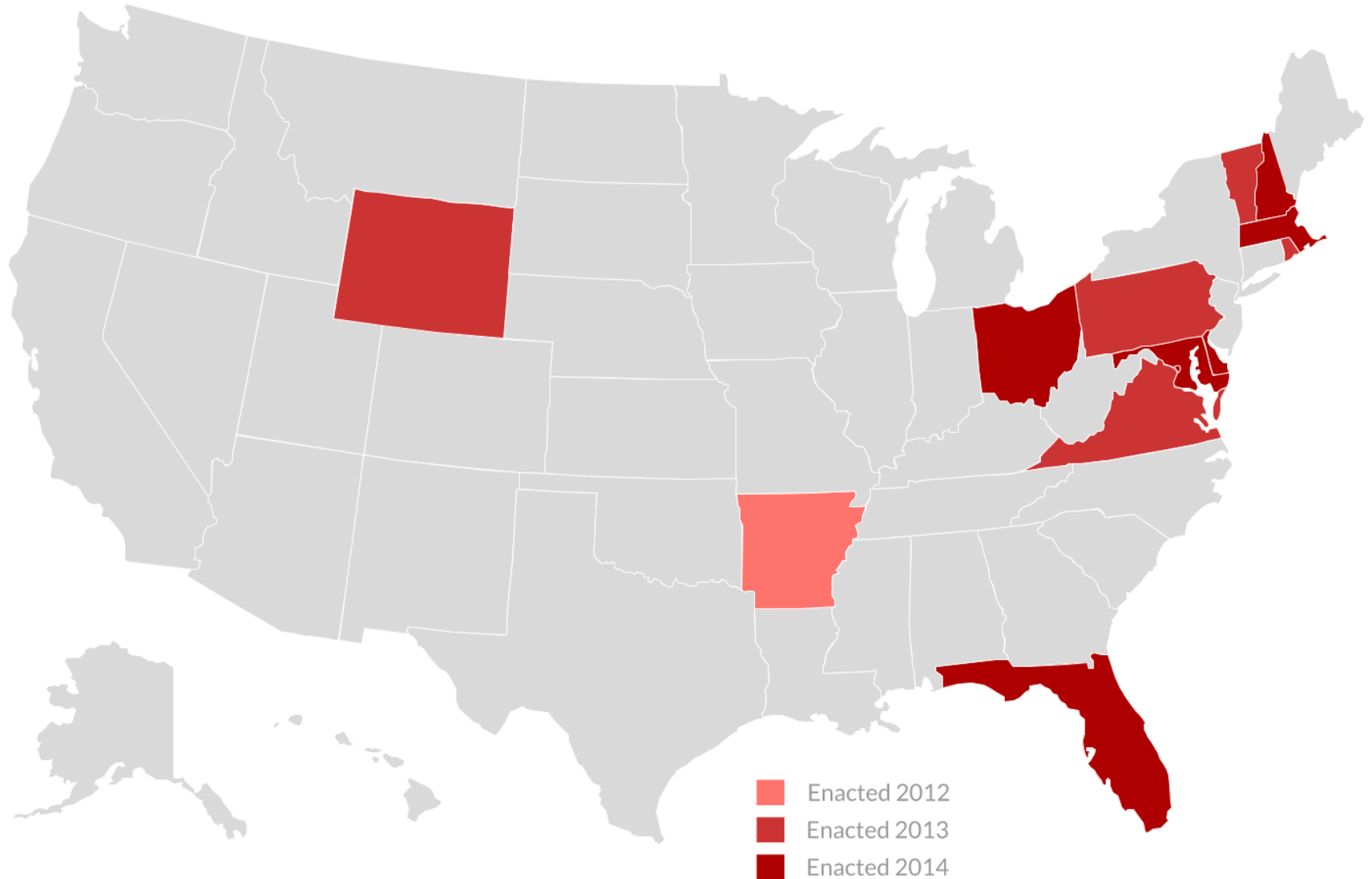
Traditional Funding Options	Less Traditional Options
<ul style="list-style-type: none"> • Gas taxes • Other taxes on motor fuels • Motor vehicle fees • Tolls 	<ul style="list-style-type: none"> • Distance-based fee • Taxes on alternative fuels
Finance Solutions that borrow against or otherwise leverage revenues	
<ul style="list-style-type: none"> • Bonds • Federal credit assistance 	<ul style="list-style-type: none"> • State infrastructure banks • Public-private partnerships

Increased Transportation Revenue

A map of the United States where states are colored either light gray or teal. The teal-colored states, representing increased transportation revenue, include Washington, Oregon, Nevada, Idaho, Utah, Arizona, New Mexico, Colorado, Wyoming, Montana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Minnesota, Iowa, Missouri, Arkansas, Louisiana, Mississippi, Alabama, Georgia, Florida, South Carolina, North Carolina, Virginia, West Virginia, Kentucky, Tennessee, Indiana, Ohio, Michigan, Wisconsin, Illinois, Pennsylvania, Maryland, Delaware, New Jersey, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, Maine, Alaska, and Hawaii.

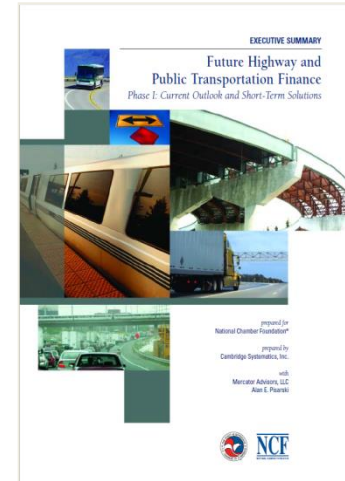
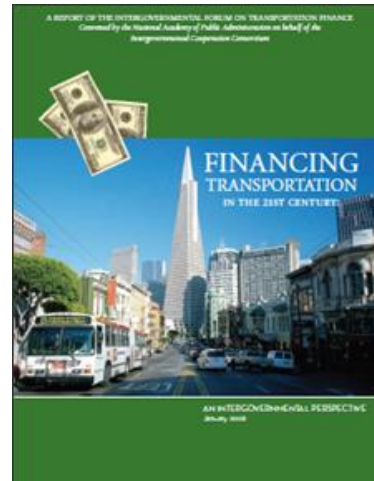
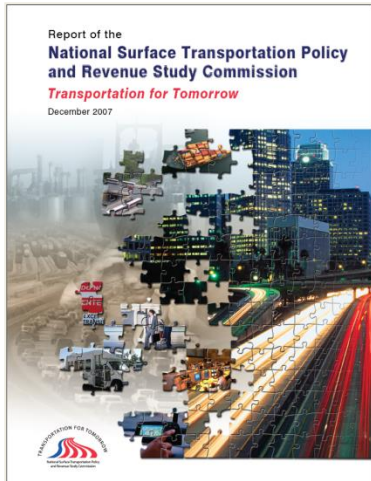
Source: Transportation for America

Successful in Increasing Transportation Revenue

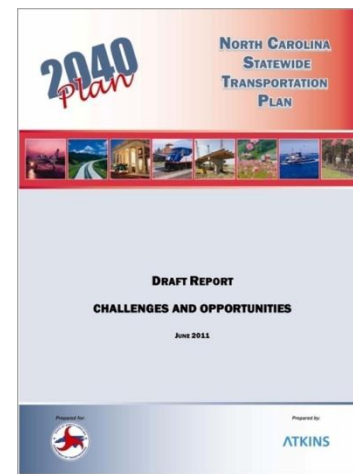
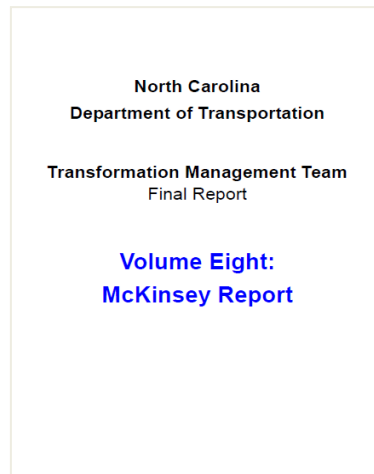
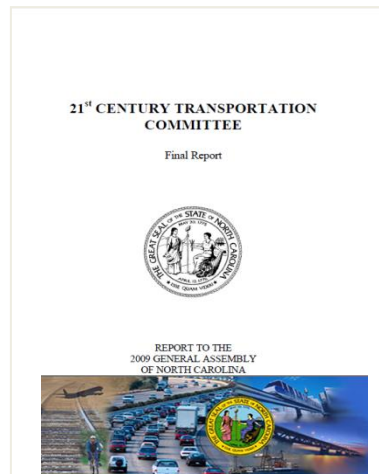


A map of the United States where states are colored either light gray or bright red. The red states include Washington, Oregon, Idaho, Nevada, Arizona, Utah, Wyoming, Colorado, New Mexico, Texas, Oklahoma, Missouri, Illinois, Indiana, Michigan, Ohio, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Kentucky, Tennessee, West Virginia, and New Jersey. All other states are light gray.

Previous Revenue Studies



National



State

AASHTO – Revenue Options

Matrix of Illustrative Surface Transportation Revenue Options

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 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	\$2.49
Tire Tax—Trucks	10%	Increase in current revenues, structure not defined	\$0.04	\$0.23
	Illustrative			Total
Potential Highway Trust Fund Revenue Mechanisms	Rate or Percentage Increase	Definition of Mechanism/Increase	Assumed 2014 Yield*	Estimated 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	\$7.64
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
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	\$175.88
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

21st Century Transportation Committee - Recommendations

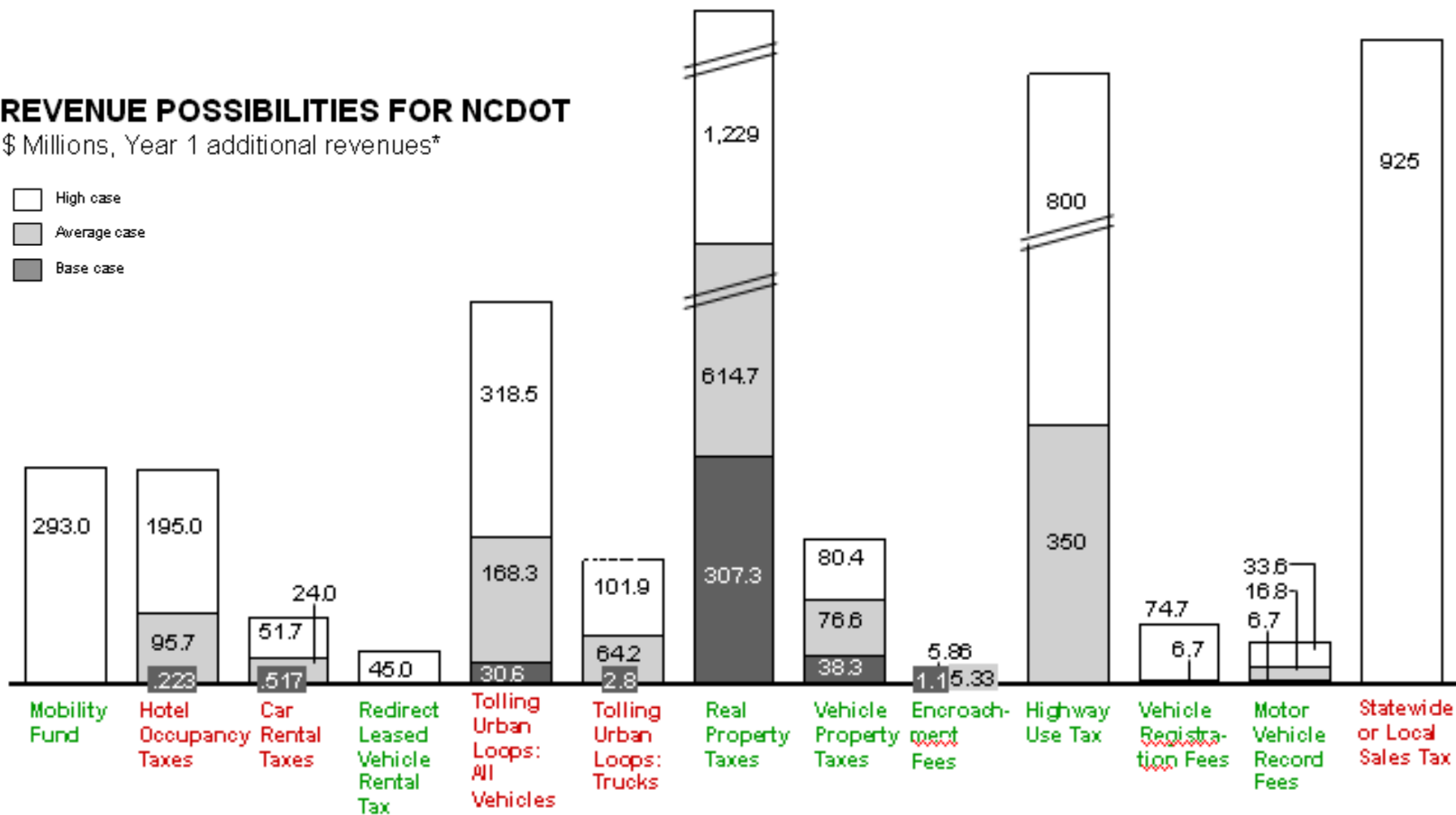
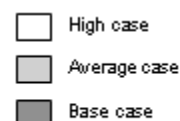
Goal: \$1 billion per year for the next 10 years

- Eliminate Transfers (HF and HTF)
- Implement VMT (Statewide and Local Option)
- Increase Highway Use Tax Rate and Class A & B caps
- Increase Passenger Vehicle Registration Fees
- Increase Stagger Registration Fees
- Consider Weight based Vehicle Registration Fees
- Consider Bond Referendum
- Allow Local Option Tax
- Implement Indexing DMV Fee Rates Structure
- Implement Statewide Interstate Tolling
- Implement Differential Fuel Tax Rates

McKinsey Report – Revenue Options

REVENUE POSSIBILITIES FOR NCDOT

\$ Millions, Year 1 additional revenues*



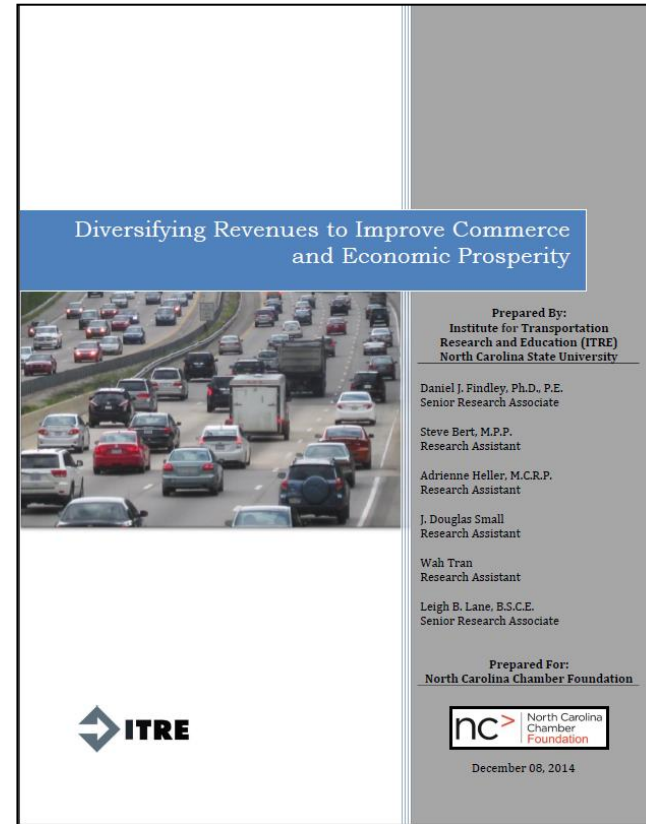
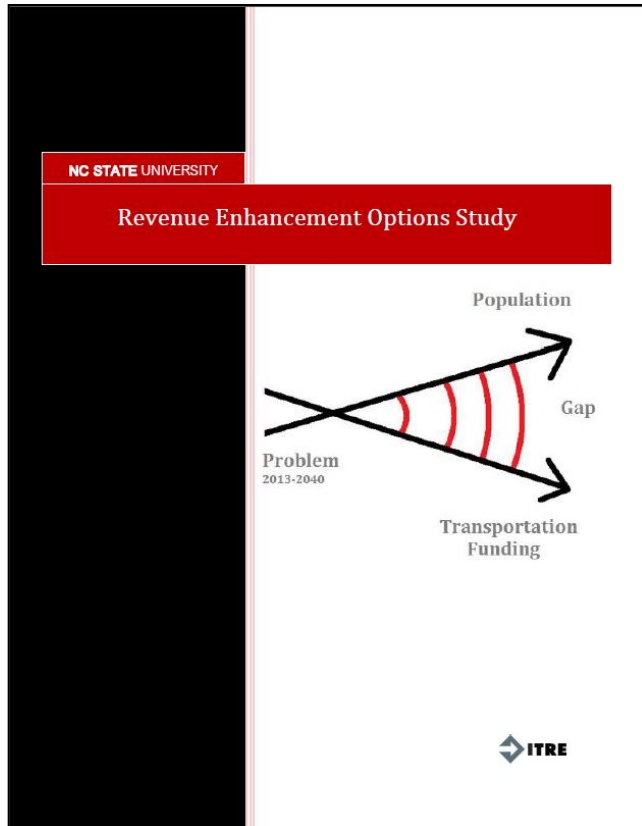
Legend = New Sources of Funding/Current Sources of Funding

* Except Leveraging Debt, which measures additional revenues every other year over an 8-year period; and General Fund transfers, which measures average annual return over an 8-year period.

2040 Plan - Revenue Enhancement Options

Continue motor fuel tax indexing	\$19 Billion
Increase registration/license fees	\$6 Billion
Eliminate Highway Fund transfers	\$4 Billion
Redirect vehicle lease fee to NCDOT	\$1 Billion
Increase Highway Use Tax	\$3 Billion
Local vehicle property tax	\$1 Billion
Auto insurance surcharge	\$12 Billion
Wholesale motor fuels tax	\$12 Billion
Interstate tolling	\$42 Billion
VMT Fee	\$27 Billion

Recent Studies



Do we have a crisis?
Do we need a paradigm shift?
What are our best options?
What are our next steps?
Annotated Bibliography Supplement

Benefits of Infrastructure Investment
Infrastructure Spending Impacts
Annual Driving Expenses
Criteria for Ranking Revenue Options