



FACT SHEET: Clark County-5 Fuel Revenue Indexing

Executive Summary

An initiative will be placed on the ballot this November asking Clark County registered voters if they wish to continue tying fuel taxes to the inflation rate. Fuel taxes in the County have been indexed to inflation since January 2014, pursuant to legislative authority and a County ordinance. This program—Fuel Revenue Indexing (FRI)—is set to expire at the end of 2016, unless voters in Clark County approve the ballot initiative.^a

In Clark County, a “YES” vote means that FRI would be continued for an additional ten years. Automatic inflation adjustments would be applied at the beginning of each fiscal year over the ten-year period. A “NO” vote eliminates additional inflation-adjusted increases to fuel taxes after December 31, 2016. However, previously indexed amounts would remain in place until all obligated bonds under the current FRI program have been discharged in full.

If a majority of voters approves the initiative, revenues collected under FRI would be reserved for the construction, maintenance, and repair of streets, roads, and highways in Clark County. Collected revenues would not be used to fund public transit services.

In the pages that follow, the Guinn Center addresses the following questions Clark County voters may have about FRI and its potential continuation:

- 1) What is Clark County Question No. 5?
- 2) Why is this measure coming to the voters?
- 3) What happens if Clark County Question No. 5 passes?
- 4) What happens if Clark County Question No. 5 fails to pass?
- 5) Are there prohibitions on the use of FRI revenues?
- 6) How does FRI work?
- 7) What are the arguments for FRI?
- 8) What are the arguments against FRI?
- 9) Is FRI unique to Washoe and Clark Counties?
- 10) What potential alternative mechanisms are available to finance transportation infrastructure development?

Please note that Guinn Center will not take an official position on the ballot initiative.

^a Nevada’s other counties will have separate ballot initiatives regarding the establishment of FRI. The exception is Washoe County, which already indexes its fuel taxes to inflation, and its provisions are not expiring. If an FRI ballot initiative fails to pass in a given county, it will have no effect on FRI in any other county.



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1. What is Clark County Question No. 5?

Clark County Question No. 5 is a ballot initiative that will be placed before the registered voters of Clark County, Nevada, at the November 8, 2016, General Election.¹

Clark County Question No. 5 reads: “Shall Clark County continue indexing fuel taxes to the rate of inflation through December 31, 2026, the proceeds of which will be used solely for the purpose of improving public safety for roadway users and reducing traffic congestion by constructing and maintaining streets and highways in Clark County?”

Pursuant to State legislation and a County ordinance, Clark County has been indexing fuel taxes to the rate of inflation (referred to as Fuel Revenue Indexing – FRI) since January 1, 2014, with the provisions set to expire on December 31, 2016, unless a majority of registered voters in Clark County approves the annual increases. A “YES” vote endorses the continuation of the preexisting policy for an additional ten years.

A “NO” vote rejects additional inflation-adjusted increases to fuel taxes after December 31, 2016, effectively expressing an intent to allow the current provisions to expire. However, a “NO” vote does not mean that fuel taxes in Clark County will revert back to pre-indexing amounts. Rather, as discussed later, indexed fuel taxes will be preserved, albeit constrained to the aggregate indexing as of July 1, 2016, with no future adjustments permitted.

2. Why is this measure coming to the voters?

In 2013, the 77th Session of the Nevada State Legislature passed Assembly Bill (AB) 413.² The legislation authorized the Clark County Board of Commissioners to index the county’s motor vehicle fuel and various special fuel taxes to inflation for the period January 1, 2014, through December 31, 2016, if it enacted an ordinance to effectuate the provisions of AB 413. Additional inflation-adjusted increases would be prohibited after the end of calendar year 2016, unless a majority of registered Clark County voters approved a continuation of FRI for the subsequent ten-year period (January 1, 2017, through January 1, 2026) in November 2016, via ballot initiative.

On September 3, 2013, the Clark County Board of Commissioners approved the adoption Ordinance No. 4126 (codified as Chapter 4.07 of the Clark County Code), which established conforming language that executed the provisions of AB 413.³

The 78th Session of the Nevada State Legislature passed new legislation in 2015 that would clarify ballot language and modify the distribution of deposits.⁴ AB 191 supersedes AB 413 and Clark County Ordinance No. 4126, though most of the original provisions remain intact.

AB 191 simplified the ballot initiative language and process under AB 413. Each county, with the exception of Washoe, must have a ballot question regarding FRI: its establishment in all counties but Washoe and Clark and its continuation in Clark.⁵ The legislation devolves authority over the decision to institute FRI to each county's voters, rather than placing it as a statewide question on the ballot. In practice, this means that if the voters in any given county choose to index (or not to index) its fuel taxes to inflation, the outcome will have no bearing on FRI in any other county.

Like the other counties, the Clark County Board of Commissioners' approval was required to place the question before the voters and adopt ballot language. The Clark County Board of Commissioners voted unanimously on both in the same motion on June 21, 2016.⁶

3. What happens if Clark County Question No. 5 passes?

If it passes, taxes on motor vehicle fuel and various special fuels will be tied to the rate of inflation, with automatic annual increases, from January 1, 2017, through December 31, 2026. AB 191 is the enabling legislation that sets forth the provisions for implementation, which includes the fuels subject to indexing, the portions of fuel taxes to which indexing applies, an annual cap of 7.8 percent on inflation-adjusted increases, and the distribution of deposits, amongst others.^b

Once passed, the extended FRI program (January 1, 2017 – December 31, 2026) could only be abolished through legislative action. Indexed amounts would remain in place, set at the rate as of the final indexing prior to revocation, in order to discharge any outstanding bonds. Additional increases to the motor vehicle and various special fuels taxes would be prohibited after December 31, 2026, unless a majority of registered voters in Clark County approve a continuation of FRI in November 2026.

The Regional Transportation Commission of Southern Nevada (RTC), which would implement the provisions of AB 191, projects that motorists would pay an average of 24 cents per day in gasoline taxes over the ten-year period or about \$88 per year.⁷ At the end of 2026, gasoline taxes per gallon would amount to \$0.97, which is equal to: \$0.52 (statutorily-fixed rate), \$0.10 (current indexed tax rate), and \$0.35 (projected ten-year cumulative indexed tax rate).⁸ (See Appendix A for a financial breakdown of the ten-year FRI extension.) This would yield \$2-3 billion in revenue for transportation projects in the County.⁹ The estimated revenue is based on a calculation using annual cumulative indexed tax rates and number

^b The disposition of new inflation-adjusted taxes and additional revenues from these taxes may be used to finance transportation construction and maintenance, through the issuance of new bonds, but cannot be applied to satisfy outstanding bonds issued under the current FRI program. The disposition of new inflation-adjusted taxes, that is, additional increases, from January 1, 2017 – December 31, 2026, would conform to the provisions of AB 191. Indexed increases to the Federal, county mandatory, and county optional portions of the motor vehicle fuel tax, and the Federal portion of the taxes on various special fuels, would be deposited in each county's Regional Streets and Highways Fund, which is administered by the RTC in Clark County. The indexed state portions of motor vehicle and special fuel taxes would be deposited in the State Highway Fund and spent in the county where the revenue was collected. Regardless of the distribution of deposits, all revenue obtained under the ten-year FRI program will remain in Clark County for the construction and maintenance of roads and highways.

of gallons of gasoline sold and taxed in Clark County in fiscal year (FY) 2015, which was 778.2 million gallons.¹⁰

4. What happens if Clark County Question No. 5 fails to pass?

If it fails to pass, the Clark County Board of Commissioners cannot impose additional inflation-indexed increases to fuel taxes after December 31, 2016. And the previously-indexed portions, cumulative from January 1, 2014, through July 1, 2016, will not be eliminated from Clark County's fuel taxes until all obligated amounts have been discharged in full. Provided that a majority of registered voters in Clark County does not approve the ballot initiative, additional fuel tax increases, either through FRI or another measure, could not be instituted, except through an Act of the Legislature (such as authorizing legislation or a legislatively-referred ballot initiative at a future election).

5. Are there prohibitions on the use of FRI revenues?

The legislation (AB 191) requires that revenue collected under FRI be dedicated to construction, maintenance, and repair of streets, roads, and highways.¹¹ Although there is a bit of leeway in the policy language—for example, related transportation improvements, such as traffic signal upgrades and street lighting enhancements are permissible—project types are limited to the above purposes.¹²

The RTC will administer certain indexed portions of the motor vehicle fuel tax and the Federal portion of the taxes on various special fuels. Although the RTC is also the authority for transit in the region, it cannot allocate any revenue obtained through FRI for these purposes, such as transit services, including the bus system, senior transportation, veteran transportation, paratransit, and mobility training, amongst others.¹³

Any revenue obtained via FRI must stay within the county where the fuel is taxed. This includes the indexed state portion of the tax, which, under AB 191, would be deposited in the State Highway Fund. This money may be used only to finance the construction, maintenance and repair of state highways in the county in which the tax is collected. The same holds true for the other indexed portions that would be distributed to each county's Regional Streets and Highways Fund. While at least one county manager has raised the concern that the money would be held by the State and used for state highways, rather than city or county roads, this assertion appears to be unfounded, at least with respect to the non-state portions to be indexed.¹⁴

Residents in some states have witnessed the redirection of earmarked transportation money into other funds or its being used for other purposes, as permitted by the laws of those states. Under AB 191, FRI revenue could not be redistributed to other State funds, borrowed against to manage budgetary shortfalls, or arrogated in a financial emergency: Revenues may only be employed for their intended purposes—construction, maintenance, and repair of streets, roads, and highways—as set forth in the legislation.

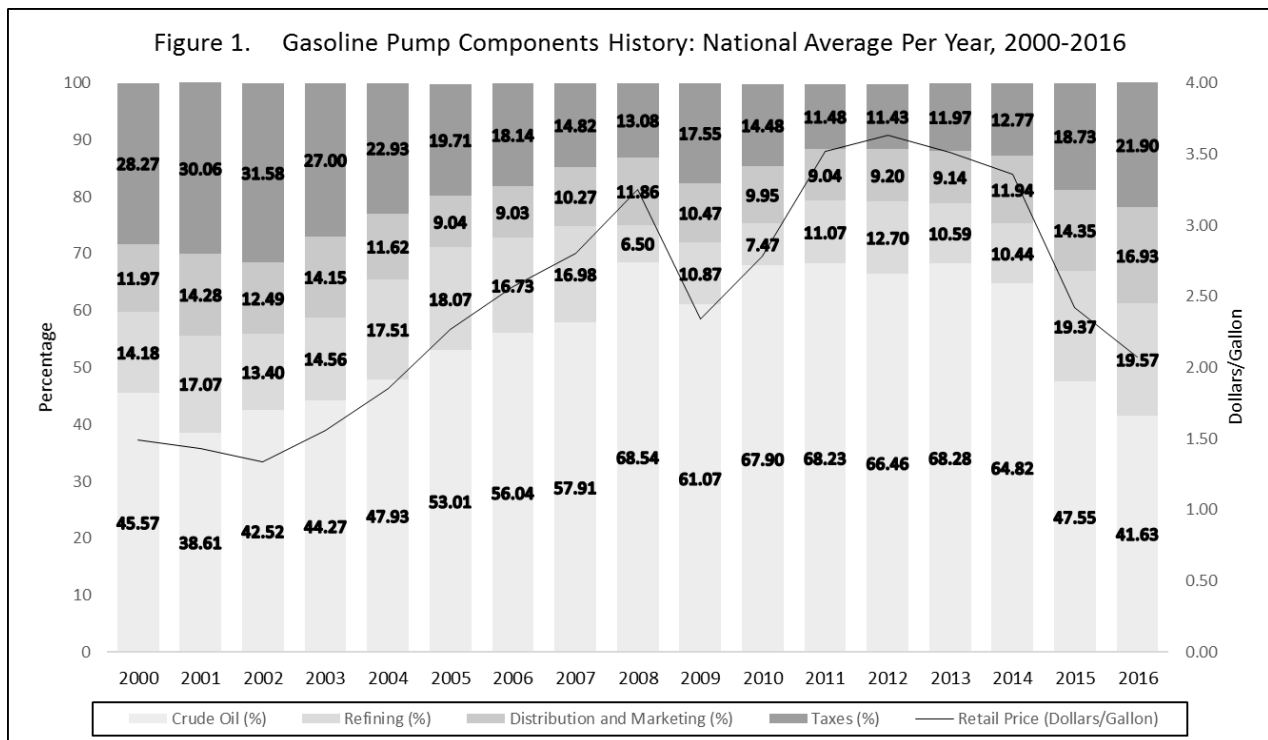
6. How does FRI work?

Indexing fuel taxes to inflation is often construed as complex in nature, as understanding it requires a sense of how taxes factor into fuel prices, statutorily fixed components of fuel taxes, and inflation indexing itself. This section provides a breakdown of these three elements to help demystify the procedure.

Fuel Prices and Taxes

This section will discuss various special fuels, though we emphasize motor vehicle fuel, as this may have the largest impact on consumers. According to the U.S. Energy Information Administration, there are four components of the retail price of gasoline (dollars per gallon): (1) crude oil; (2) refining; (3) distribution and marketing; and (4) taxes.¹⁵ Figure 1 presents historical data (2000-2016) on average national gasoline pump components and compares them to the national average retail price.¹⁶

As Figure 1 demonstrates, the average national gasoline tax, as a percentage of the retail price of gallon, varies from year to year. This variation is a function of movement in the four components of the retail price of gasoline, such as changes to state and local fuel taxes. Other market forces, including crude oil prices, refining costs, and distribution/marketing costs, can drive retail pricing, as well.



Fuel Tax Fixed Portions in Clark County, Nevada

Motor vehicle fuel and various special fuels would be subject to indexing under AB 191.¹⁷ Each type of fuel has its own tax requirements, as shown in Table 1.¹⁸

Table 1. Statutorily-Fixed Taxes on Motor Vehicle Fuel and Various Special Fuels in Clark County, Nevada (per Gallon)^{19, 20}

(Fixed Fuel Tax Portions Imposed by Statute Are Subject to FRI)

	Motor Vehicle Fuel	Diesel Fuel	Emulsion of Water-Phased Hydrocarbon Fuel	Liquefied Petroleum Gas (LPG)	Compressed Natural Gas (CNG)
Federal Tax	18.400 cents	24.400 cents	—	18.300 cents	18.300 cents
State Tax	18.455 cents	27.750 cents	19.000 cents	22.000 cents	21.000 cents
County Mandatory Tax	6.350 cents	—	—	—	—
County Optional Tax	9.000 cents	—	—	—	—
Total	52.205 cents	52.150 cents	19.000 cents	40.000 cents	39.000 cents

Fuel taxes in Clark County are statutorily fixed and *then* indexed to inflation under the current FRI program. Passage of the ballot initiative would continue this procedure.

All statutorily-fixed fuel tax portions, plus inflation-adjusted amounts under the three-year FRI program, would be subject to indexing. As an example, for motor vehicle fuel, the entire 52.205 cents per gallon, along with the approximately ten cents added by the current FRI policy, would be inflation-adjusted annually. Thus, about 62 cents per gallon would be established as the initial base. Consumers pay only Federal and state taxes on diesel, LPG, and CNG; it is these portions that would be adjusted to inflation. Likewise, as emulsion of water-phased hydrocarbon fuel has but only a state-level tax, it is that portion that would be subject to indexing.

Inflation Indexing

Pursuant to legislation, the inflation rate is measured by changes in the Producer Price Index (PPI). The PPI is a family of indexes produced by the U.S. Department of Labor's Bureau of Labor Statistics that "measures the average change over time in the selling prices received by domestic producers for their output."²¹ AB 191 designated certain PPI indexes most appropriate to help "keep up" with inflationary price increases in the cost of materials used for transportation infrastructure and to capture inflation in the cost of construction and maintenance of roads.^{22,23}

The PPI for a given basket of goods is not, in and of itself, a measure of inflation but rather, an inflation indicator. It is the percent change in PPI from year to year that captures inflationary increases or decreases. Calculation of the inflation rate for a given fiscal year entails an averaging of the inflation rate for the ten calendar years preceding that fiscal year.²⁴ Then:

- 1) The resulting percentage is the indexing rate, provided that it does not exceed the 7.8 percent annual cap set by the legislation.
- 2) If it does exceed the cap, then the indexing rate is set at the cap, or what is termed the applicable percentage. Overages are built into subsequent years in order to keep apace of inflation.
- 3) This process continues iteratively until the indexing rate catches up to inflation, with the applicable percentage not to be exceeded in any given year.²⁵

A more technical breakdown of the preceding information is supplied in Appendix B.

Once the rate of inflation is established for a given fiscal year, it is multiplied against the base to obtain the total indexed amount. For the first indexing under the current FRI program, the base was the statutorily-fixed amount of fuel taxes. In subsequent years, the base is/would be the total indexed amount for the previous fiscal year. Therefore, the base cumulates over time. Table 2 illustrates the FRI procedure for the three-year program under AB 413 and Clark County Ordinance No. 4126 for the motor vehicle fuel tax.

Table 2. Calculation of Indexed Gasoline Tax in Clark County, Nevada²⁶ (Pursuant to AB 413 and Clark County Ordinance No. 4126)					
Effective Date	Applicable FY	PPI (%)	Base (\$)	Indexed Tax Rate: PPI × Base (\$)	Total: Base + Indexed Tax Rate (\$)
January 1, 2014	2014	6.22	0.52205	0.03247	0.55452
July 1, 2014	2015	6.05	0.55452	0.03355	0.58807
July 1, 2015	2016	5.25	0.58807	0.03087	0.61894
July 1, 2016	2017	0.54 ^{c, 27}	0.61894	0.00334	0.62228

If a majority of Clark County voters approve Question No. 5, the base for the first annual inflation-adjusted increase will be \$0.62, or \$0.10 above the statutorily-fixed amount of \$0.52, (plus an additional \$0.35 (projected ten-year cumulative indexed tax rate)).²⁸ If the question fails to pass, the base of \$0.62 cents is what will continue to be imposed until the long-term bonds are discharged in full.

7. What are the arguments for FRI?

This section addresses four primary arguments in favor of FRI: (1) the supply and demand of roadways; (2) a funding shortfall; (3) positive externalities; and (4) potential mitigation of deferred maintenance and repair costs.

Supply and Demand of Roadways

A constellation of factors has converged that has made the need for FRI especially salient. Between 1990 and 2003, Nevada's population grew by 92 percent, and vehicle miles of travel on its streets and highways more than doubled from 9 billion to 19.46 billion.²⁹ By 2019, Nevada is expected to have a statewide population of nearly 3 million, and Clark County alone is projected to have a population of approximately 2.2 million.³⁰ Nevada's population as of the 1990 Census was 1,202,000, and Clark County's was 741,459; this represents nearly a 150 percent population increase statewide and almost 200 percent countywide over the near 30-year period.³¹ Vehicle miles traveled on Nevada's highways increased to 20.78 billion in 2008 and then again to 24.65 billion in 2013.³²

These demographic changes have implications for Nevada's streets, roads, and highways, particularly with regard to capacity and safety. Of 31 large urban areas (population over 1 million and less than 3 million) in the United States, the Las Vegas-Henderson area experiences levels of traffic congestion that equates

^c The inflation rate for FY2017 was actually 3.43 percent, but because of the cumulative cap established under Clark County Ordinance No. 4126—set at 19.2 percent of the statutorily-fixed amount of \$0.52, or \$0.10 total—the adjustment was restricted to 0.54 percent so as not to exceed the cap.

to 46 hours in yearly delays per auto consumer, excess fuel of 21 gallons per auto consumer, and an annual congestion cost of \$984 per auto consumer.³³ In its 2014 Report Card for Nevada's Infrastructure, the American Society of Civil Engineers (ASCE) rated its transportation infrastructure a C-.^{d, 34} It shows signs of general deterioration, with some elements significantly deficient in conditions and functionality, and increasingly vulnerable to risk; in particular, the state highway system would require \$285 million to catch up on its backlog of highway maintenance.³⁵

Simultaneously, per capita fuel use in Nevada declined 8.3 percent between 1990 and 2003.³⁶ This decline is consistent with the U.S. Energy Administration's projection for a slow, but steady, national decrease in motor gasoline consumption through 2040, which the agency attributes to more stringent fuel economy standards.³⁷ Revenue from motor vehicle fuel taxes is inversely proportional to motor vehicle fuel economy: Increased fuel economy results in less fuel consumption, which decreases the amount raised from fuel taxes.^{e, 38}

In sum, roadway usage has increased, resulting in attrition and capacity overload, which raises concerns about safety and congestion, respectively. Per capita fuel use has decreased in tandem. The statutorily-fixed tax rates, which are structured to address these needs, are less able to meet demand as fewer gallons of fuel continue to be purchased. As the Center for Business and Economic Research at UNLV observes, "As Nevada's population grows, vehicle miles traveled will increase. The demand for roads and highways will increase with traffic. If Nevada is to maintain the same level of service for its motor vehicle traffic, the state will need to build and maintain more roads and highways, which will require funding to grow with the traffic."³⁹ FRI would provide additional revenue that would bring roadway supply and demand closer together.

Funding Shortfall

There is a projected gap between southern Nevada's critical transportation needs and revenues available to service them. According to the RTC, southern Nevada needs \$5.6 billion for transportation infrastructure maintenance and development: \$2.2 billion for Nevada Department of Transportation projects in the region and \$3.4 billion for RTC projects.⁴⁰ The RTC has estimated that, unless FRI is continued, it would receive an average of \$58 million per year over the period 2019-2025 for roadway projects; \$58 million is the equivalent of four miles of beltway.⁴¹ With the FRI continuation, the RTC projects that it will receive \$200 million to \$300 million per year, or \$2-3 billion total, for roadway projects in Clark County between 2017 and 2026.⁴²

One reason for the funding shortfall is that, while the costs of road construction have risen with inflation, motor vehicle fuel taxes have remained statutorily fixed (the exceptions are Washoe County, since 2003, and Clark County, under the current three-year FRI program). Relevant governmental entities have lost purchasing power. The consumer analogue is as follows: consider a salaried employee who earned

^d An overall C grade is defined as the system being in fair to good condition, per the ASCE.

^e While overall fuel economy may have translated into an overall decline in gasoline sales, this trend cannot be attributed necessarily to an increase in electric vehicles, particularly in Clark County: per the Department of Motor Vehicles (DMV), in 2015, there 1,047 registered vehicles were electric, or 0.06 percent of all vehicles in the County. Source: Regional Transportation Commission of Southern Nevada. 2016. "Proposed 10-Year Extension of Fuel Revenue Indexing: Frequently Asked Questions (FAQs)." Available: http://www.rtcnv.com/fri/docs/FRI_Ext-FAQs-July2016.PDF.

\$25,000 in 1996; with inflation, he or she would be earning just over \$38,000 today, provided that his or her salary was indexed to inflation.⁴³ If this employee's salary did not keep pace of inflation, it would remain at \$25,000, even though the costs of goods and services that he or she would purchase would be adjusted to inflation. Thus, in the absence inflation-adjusted salary increases, the consumer would lose purchasing power. Government procurement is subject to a similar constraint: the costs of construction inputs, such as asphalt and concrete, have increased with inflation, but fuel taxes in Nevada have remained largely fixed.⁴⁴ By indexing fuel tax revenues to inflation, state and local governmental entities would recover lost purchasing power, which, in turn, would narrow the funding gap. As noted earlier, FRI is expected to bring in \$2-3 billion over the ten-year period to the RTC and the State, which would help the agency and the State address their projected need of \$5.6 billion.

Positive Externalities

Spending on transportation infrastructure projects can be beneficial to Nevadans' quality of life. Improved roads can help expand capacity, minimizing travel time and costs and maximizing mobility. They also enhance safety for motorists, pedestrians, and bikers. Apart from that, there are external benefits, or positive externalities, associated with the current FRI program and its potential continuation.

The southern Nevada construction industry was one of the most deeply affected sectors hit by the recession.⁴⁵ "[R]oad building not only requires construction workers, but also grading and paving equipment, gasoline or diesel to run the machines, smaller hand tools of all sorts, raw inputs of cement, gravel, and asphalt, surveyors to map the site, engineers and site managers, and even accountants to keep track of costs."⁴⁶ The current FRI program is projected to generate \$700-800 million through bond issuance, which is expected to create 9,000 jobs.⁴⁷

As of the middle of 2016, 153 design and construction contracts have been awarded to 207 businesses, of which 76 are local small businesses.⁴⁸ With a project total of \$392 million (i.e., FRI-awarded funding), approximately 5,060 jobs have been created.⁴⁹ In 2015, the RTC reported that, of local small businesses, 34 percent were Disadvantaged Business Enterprises (DBEs), Minority Business Enterprises (MBEs), and/or Women Business Enterprises (WBEs).⁵⁰

The economic benefits of FRI are not limited to labor market expansion. Additional revenue for roadway improvements has broader macroeconomic implications, as well, such as economic diversification and competitiveness, both regionally and locally.⁵¹ Moreover, transportation investment can lower transportation costs (i.e., warehousing and logistics), which is important for business expansion and location choice; such savings can increase productivity and market share, as well as attract new businesses.⁵²

There is tangible evidence from southern Nevada linking FRI to new business development: Exit 118 off I-15, in Mesquite, which was funded through FRI, has attracted three new businesses, in part because the new interchange (replacing the preexisting roundabout) expanded capacity for larger trucks.⁵³ The recent opening has stimulated greater business interest in the area; Mesquite's mayor, Allan Litman, has observed that the City receives regular inquiries regarding local land development possibilities.⁵⁴

Lastly, to the extent that investment in transportation infrastructure improves such quality-of-life measures as reduced commute times and "greater proximity to desirable amenities," it has the potential to increase property values.⁵⁵

Potential Mitigation of Deferred Maintenance and Repair Costs

Deferred maintenance and repair is, “[M]aintenance and repair activity that was not performed when it should have been or was scheduled to be and which is put off or delayed to a future period.”⁵⁶ The U.S. Bureau of the Fiscal Service cites increased safety hazards, poor service to the public, inefficient operations, and higher costs in the future as potential consequences of deferred maintenance and repair.⁵⁷ It is the last of these points that will be emphasized in this section, though, undoubtedly, all are important.

To understand the ramifications of deferred maintenance and repair, consider this hypothetical example: Car owners and lessees are instructed to change the oil in their vehicles after a certain number of miles traveled has been reached. An average oil change costs a nominal amount of money, but sometimes drivers forget to perform this regular maintenance, cannot afford it, or deem it unnecessary. Eventually, not replacing the oil can take its toll on the engine, resulting in expensive engine repair, relative to the initial price of the oil change. Thus, deferred maintenance and repair can result in exponentially higher costs down the line. With respect to transportation infrastructure, spending one dollar on pavement preservation can eliminate or delay six dollars to fourteen dollars on rehabilitation later in its life cycle.⁵⁸

One criticism of funding priorities for transportation infrastructure is that states regularly spend more money on road expansion than repair, burdening taxpayers and state budgets with costly maintenance backlogs.⁵⁹ One report compiled information on average annual state expenditures on road expansion versus repair (2009-2011) and determined that Nevada spent 83 percent on road expansion (as a percentage of annual state expenditures) versus 17 percent on repair.⁶⁰

The Guinn Center ranked road repair as a percent of total expenditures, from highest to lowest, using the data presented in this report.⁶¹ Nevada ranked 47th, amongst all states and the District of Columbia; only North Carolina (48th), Washington (49th), Utah (50th), and Mississippi (51st) ranked lower.⁶² Table 3, below, repeats the report’s percentages for road expansion (as a percent of total expenditures) and road repair (as a percent of total expenditures) and includes the rankings for the other six states in the Intermountain West.⁶³ The pattern that emerges is that four of the seven Intermountain West states fall near the bottom of all states. This perhaps reflects the prerogative of road construction and expansion in a region that has experienced significant growth.

Table 3. Road Expansion vs. Repair in the Intermountain West, Ranked (All States)			
STATE	ROAD EXPANSION AS PERCENT OF TOTAL	ROAD REPAIR AS PERCENT OF TOTAL	RANK
New Mexico	23%	77%	11
California	40%	60%	19
Colorado	53%	47%	28
Texas	82%	18%	45
Arizona	83%	17%	46
Nevada	83%	17%	47
Utah	93%	7%	50

On the other hand, this may raise concerns that Nevada has neglected roadway repair, possibly given its budgetary constraints. The continuation of FRI would reduce the disparity between construction and repair, potentially helping to mitigate costly downstream effects, through the RTC’s seemingly balanced approach to these competing priorities. The RTC Planning Department provided the Guinn Center with

numbers and cost information on high-priority projects—those with a timing of one to five years—and coded these projects as “new capacity/expansions,” “maintenance/repair,” and “other” (i.e., new signs and signals, Intelligent Transportation Systems, pedestrian/bike enhancements, and those projects that could not be classified into the discrete categories of either “new capacity/expansions” or “maintenance/repair”).⁶⁴ Table 4 presents information on project type, by numbers and costs.

Table 4. High-Priority Projects: Numbers and Costs⁶⁵				
PROJECT TYPE	NUMBER OF PROJECTS	PERCENTAGE OF PROJECTS	PROJECT COSTS	PERCENTAGE OF PROJECT COSTS
New Capacity/ Expansions	17	22.973%	\$114,273,190.00	15.687%
Maintenance/ Repair	40	54.054%	\$515,558,810.00	70.776%
Other	17	22.973%	\$98,606,000.00	13.537%
TOTAL	74	100%	\$728,438,000.00	100%

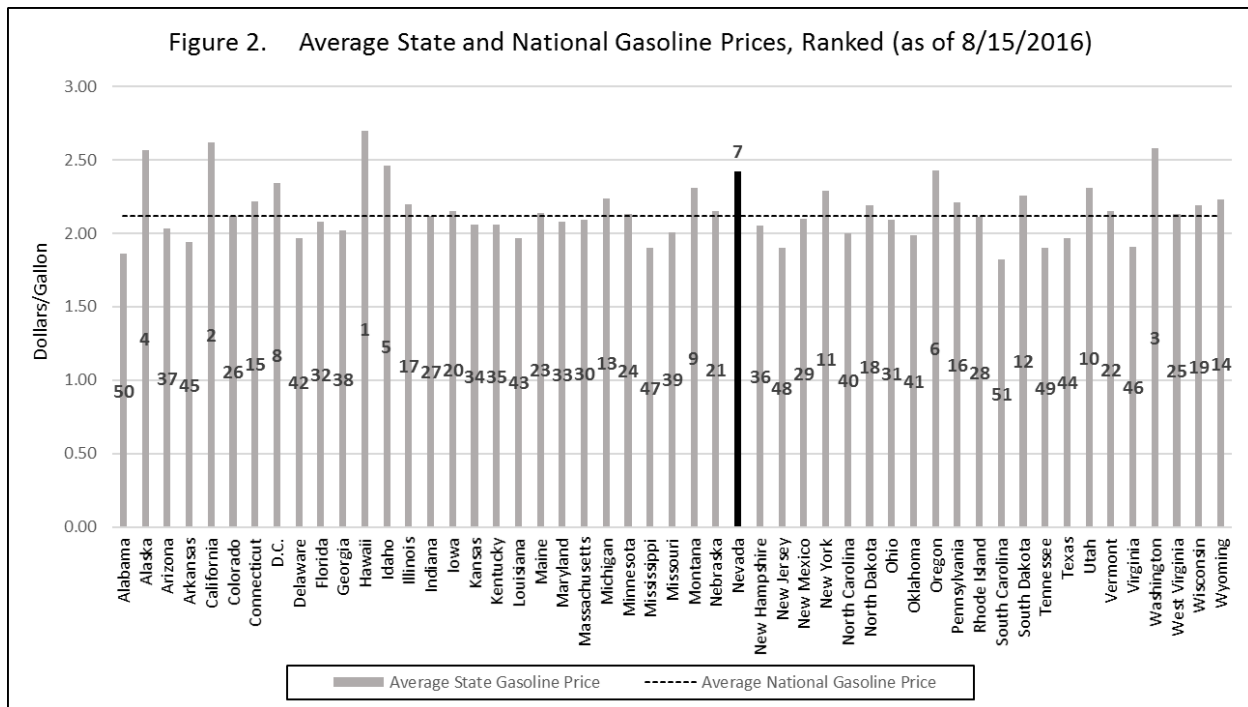
Thus, 54 percent of all high-priority projects fall into the “maintenance/repair” category, amounting to approximately 71 percent of projected expenditures for such projects.

8. What are the arguments against FRI?

This section addresses three arguments against FRI: (1) Nevada motorists’ costs; (2) regressivity; and (3) taxation without representation.

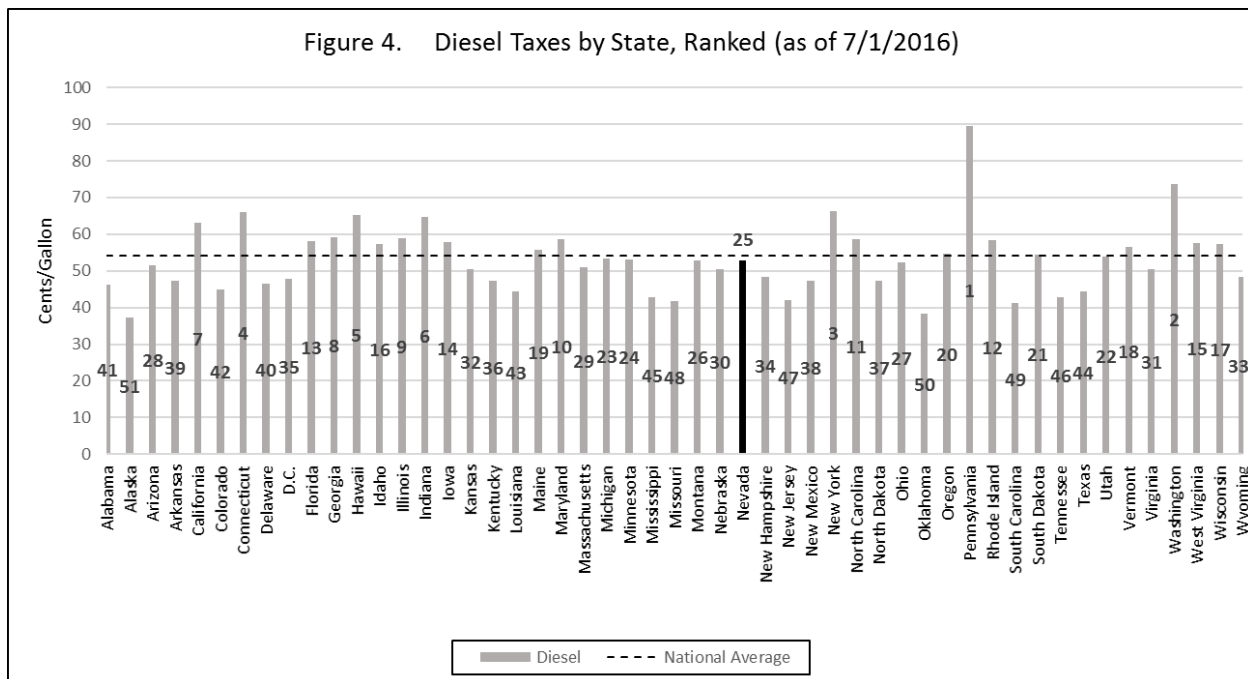
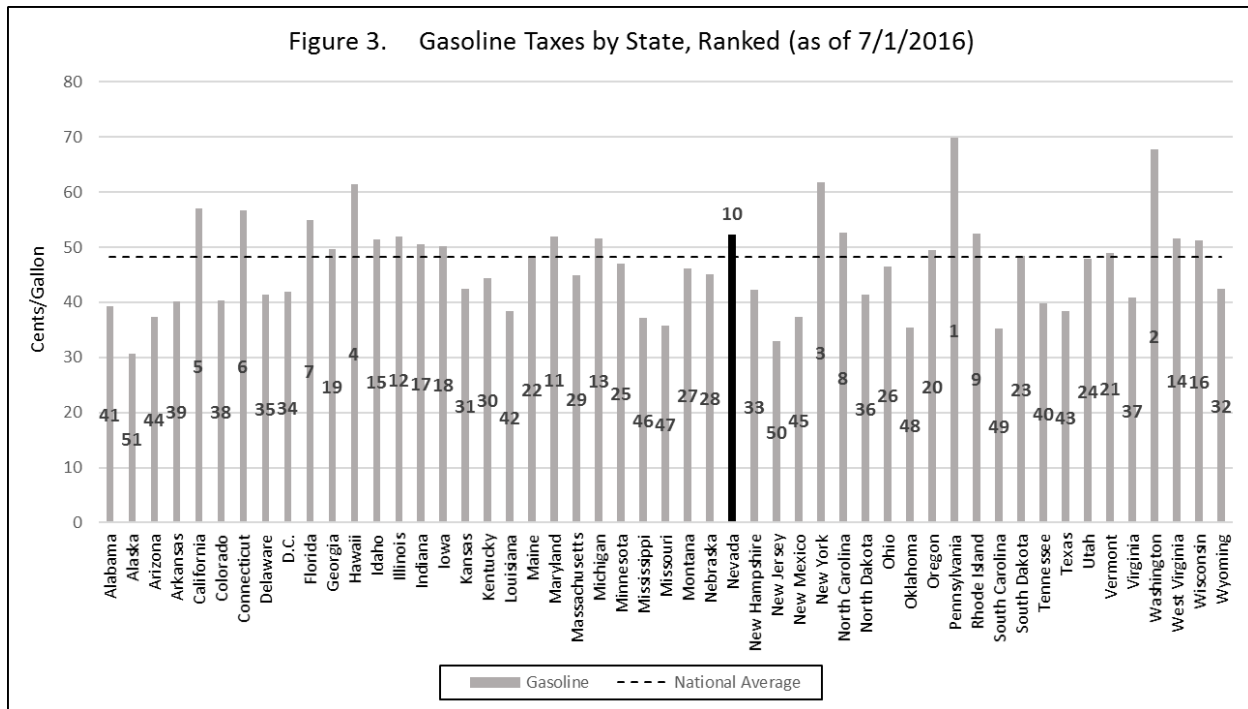
Nevada Motorists’ Costs

The costs for Nevadans to own and operate their motor vehicles are relatively high. Recent data obtained from the American Automobile Association (AAA) and ranked by the Guinn Center, as displayed in Figure 2, indicates that Nevada drivers pay the seventh-highest gasoline prices in the nation.⁶⁶ (However, Nevada recently has experienced the third-highest year-over-year decline in gasoline prices, with California coming in first, and Alaska, second.⁶⁷) Per the AAA, the average national gas price in the middle of August 2016 was \$2.12 per gallon, while the average price in Nevada was \$2.42 per gallon, which is about 14 percent above the national average.⁶⁸ Western states typically do have higher gas prices relative to their counterparts on the East Coast, on the Gulf Coast, and in the Midwest, so Nevada is not alone; with the exception of the District of Columbia (8th), the other states rounding out the top ten are: Hawaii (1st), California (2nd), Washington (3rd), Alaska (4th), Idaho (5th), Oregon (6th), Montana (9th), and Utah (10th).⁶⁹ Regional variation can be explained, in part, by distance from the source of supply, which includes gasoline, refineries, ports, and pipeline and blending terminals.⁷⁰ As Figure 1 illustrated, these factors partially comprise gasoline prices.



However, the comparatively high price for a gallon of gasoline in Nevada also results from its fairly high motor vehicle fuel taxes. Figures 3 and 4 display motor fuel taxes by state, for each gasoline and diesel.^f ⁷¹ In comparison to other states, Nevada has the tenth-highest gasoline tax in the nation but only the 25th-highest diesel tax (excluding inflation indexing for both types of fuels).⁷² (See Appendix C for a discussion national gas tax rankings.) With a state-wide average gasoline price of \$2.42 per gallon, the statutorily-fixed tax rate of 52.205 cents per gallon represents 22 percent of the per-gallon price; add in the additional 10.023 cents per gallon under the current FRI program in Clark County (for a total of 62.228 cents per gallon), and the share of gasoline taxes per gallon increases to 26 percent.

^f Data retrieved from the American Petroleum Institute and ranked by the Guinn Center.



Moreover, the statutorily-fixed portions of motor vehicle fuels are already dedicated to transportation infrastructure. Of the 18.455 cents per gallon in total state gasoline tax, 17.650 cents goes to the State Highway Fund.⁷³ This Fund “is reserved exclusively for the construction, maintenance, and repair of public highways in Nevada.”⁷⁴ The county mandatory tax includes 5.35 cents per gallon for bond service, road construction, maintenance, and repair, plus an additional one cent for repair and restoration of existing

county and city roads and streets.⁷⁵ The county optional tax, which is nine cents in Clark County, is designated for local roadway construction, as well.⁷⁶

In addition to fuel taxes, Nevada drivers pay additional costs that address transportation infrastructure needs, particularly if they own and operate a motor vehicle. New residents pay \$42.25 for a standard eight-year driver's license.⁷⁷ As Nevada transitions to eight-year licenses, current residents born in even-numbered years pay the same amount for renewal as new residents; those born in odd-numbered years pay \$23.25 at any renewal through 2017.⁷⁸ In FY2015, the State Motor Vehicle Fund received \$314.6 million in county taxes licenses and fees; \$26.2 million in drivers' license fees was distributed to the State Highway Fund.⁷⁹ As noted above, revenue allocated to the State Highway Fund must be used only for the construction, maintenance, and repair of the State's public highways, so drivers' license fees also serve those ends.

Clark County residents who own or lease motor vehicles pay a basic Registration Fee of \$33.00, which funds state road construction and the DMV operating budget; a Governmental Services Tax, which goes to local governments, school districts, and the state General Fund; and a Supplemental Governmental Services Tax, which is used for highway construction in the County.^{g, h, 80} In FY2015, a total of \$110.3 million in registration fees was received by the State Highway Fund via the State Motor Vehicle Fund.⁸¹

Taken together, the State and local governments yield a significant portion of revenue from Nevada motorists through a variety of funding mechanisms, including motor fuel taxes, drivers' license fees, and vehicle registration fees. These amounts impose substantial burdens on the average driver, particularly those who own or lease their cars. The continuation of FRI would compound these costs. Although the increases would be incremental, they would cumulate over time, meaning ever-increasing out-of-pocket expenses for the average driver. Furthermore, despite the seemingly extraordinary amount of revenue received by governmental entities, the funding shortfall remains. Continuing FRI does not guarantee that the funding shortfall would shrink; even if all high- and medium-priority transportation projects are constructed under the program, emergent critical needs are likely to materialize, reinforcing the persistence of the shortfall over the long run.

Regressivity

Gasoline taxes are inherently regressive, or "tax[es] that take[s] a larger percentage of income from low-income groups than from high-income groups."⁸² This means that a disproportionate share of a low-income motorist's income is allocated to motor vehicle fuel taxes, relative to a high-income motorist's income.

The Iowa Fiscal Partnership examined the effect of a hypothetical ten-cent per gallon gasoline and diesel tax increase on various lowan income groups.⁸³ Using 2014 household income, the investigators divided households into six income ranges: lowest twenty percent (less than \$24,000 per year), second twenty percent (\$24,000–\$44,000 per year), middle twenty percent (\$44,000–\$67,000), fourth twenty percent (\$67,000–\$100,000), next fifteen percent (\$100,000–\$171,000), and top five percent (\$171,000–or

^g Four cents on each dollar of the depreciated DMV Valuation.

^h One cent on each dollar of the depreciated DMV Valuation.

More).⁸⁴ They found that the tax change as a percentage of income on households earning \$44,000 or less per year (the bottom forty percent) is four times that of households in the highest income range.⁸⁵

In Clark County, 21 percent of the 715,415 households earn less than \$25,000 per year, and 3 percent of households earn \$200,000 or more (in 2014 inflation-adjusted dollars).⁸⁶ To the extent that the low numbers are relatively comparable, the current FRI program, which is capped at just over ten cents per gallon, represents roughly four times the percentage of income for the lowest income group (153,696 households) as the highest income group (24,264 households).⁸⁷

Under the continuation of FRI, additional inflation-adjusted increases will impose heavier burdens over time for all Nevada motorists. It could be exceptionally onerous for low-income drivers, perhaps resulting the diversion of resources away from basic needs in service of mobility, such as commuting to work. Moreover, gasoline prices tend to be inelastic—that is, consumers are not sensitive to price increases, as substitutes may not be readily available, or because gasoline is a necessity, or because of personal preferences.⁸⁸ Gasoline consumption remains relatively constant, even when there are significant price fluctuations.⁸⁹ In that regard, low-income motorists in Nevada are unlikely to secure alternative means of transportation. While this offsets any potential canceling-out effects on FRI revenue yields that would result from switching, low-income motorists would be forced to pay an ever-greater proportion of their income, as fuel tax inflation adjustments recur annually, but wages and salaries for these individuals may not be adjusted in kind.

Reinforcing the regressive dimension of the proposed fuel tax is what some opponents have suggested is a heavier motor fuel tax incidence on poorer drivers with older, fuel-inefficient vehicles than that on drivers of hybrids and electric vehicles (EVs). As noted previously, EVs presently represent 0.06 percent of all vehicles in the County.⁹⁰ Statewide, plug-in electric light vehicle registrations per 1,000 people is 0.53 (as of 2015); hybrid electric light vehicle registrations per 1,000 is 8.9 (as of 2014).^{91,92} Penetration of these alternative fuel vehicles in Nevada currently is relatively low, but may continue to grow. In addition, Federal regulations continue to increase higher fuel efficiency standards for new vehicles.⁹³ To the extent that lower income drivers cannot afford to purchase or lease new vehicles that meet these standards and higher income drivers can—irrespective of whether these cars carry traditional fuels or are hybrid/EV models—the burden may fall disproportionately to poorer drivers.

Taxation Without Representation

Opponents of FRI argue that this is a policy that embodies taxation without representation. Specifically, opponents of FRI in Carson City and Nye County have cited taxation without representation as a reason to oppose the initiative. Carson City opponents contend that neither the Legislature nor its citizens would vote for each year's tax increase separately; if the Legislature wants to increase taxes, it should be required to vote for each increase individually.⁹⁴ Nye County opponents, too, highlight the Legislature's absence of a vote each year.⁹⁵ As with Carson City and Nye County, passage of the ballot initiative in Clark County means that implementation would be subject to the provisions of AB 191, so automatic annual increases would be effectuated.⁹⁶

Although taxation without representation has been understood traditionally to mean the imposition of a tax in the absence of direct representation, in modern usage, the understanding is broader. This argument, with respect to FRI is not without merit: Automatic tax increases are not subject to either

legislative or voter approval at the time of each increase, which calls FRI's legitimacy into question insofar as it may violate certain principles underpinning U.S. law, such as the social contract and consent of the governed.

9. Is FRI unique to Washoe and Clark Counties?

No. Nor is it exclusive to Nevada. Other than Nevada (Washoe and Clark Counties), six states currently tie their fuel taxes to inflation: Florida, Georgia, Maryland, New Hampshire, Rhode Island, and Utah. Two states will be instituting FRI in the coming years, pursuant to legislation: Michigan and North Carolina. Three states—Maine, Massachusetts, and Wisconsin—plus the District of Columbia have repealed FRI provisions. See Appendix Table D for additional details.

10. What potential alternative mechanisms are available to finance transportation infrastructure development?

The RTC cites increased fixed fuel tax rates, greater vehicle taxes, and higher registration fees as examples of how other states pay for transportation projects.⁹⁷ It is also evaluating other states' assessments of potential programs, such as fees on vehicle miles traveled (VMTs).⁹⁸ Another option is to use the State's general revenue, though the downside to this approach is that it passes funding obligations from roadway users to all taxpayers.⁹⁹ The Federal government has evaluated congestion pricing, which could help limit increases to gas taxes, sales taxes, and vehicle registration fees, but can entail other costs, such as those related to implementation and operation, amongst others.¹⁰⁰

All potential alternatives likely would be evaluated on grounds of feasibility and fairness, alongside other indicators. Of these, lawmakers may want to give careful consideration to VMTs, as its proponents have suggested that they address equity issues across hybrid/EV drivers versus those driving less fuel-efficient vehicles: VMTs are usage fees and are not tied to fuel consumption. Pilot programs have been instituted recently in California and Oregon, so outcome-based evidence may be available in the near future.¹⁰¹ Of course, few programs are without disproportionate effects, and VMT fees are no exception. Those who typically drive longer distances would bear the greatest burden of such fees. In addition, some view VMTs, as "green penalties," with hybrid drivers paying a double-tax on fuel consumption and vehicle miles traveled.¹⁰² This holds insofar as VMTs do not replace motor fuel taxes entirely. Critics also have argued that VMT fees require tracking drivers, which raises privacy concerns.¹⁰³

Appendix A. Financial Breakdown of the Ten-Year FRI Extension (Tables A1 and A2)

Table A1. Projected Indexed Gasoline Tax in Clark County, Nevada, Under the Ten-Year FRI Extension					
(Pursuant to Voter Approval of Clark County Question No. 5 and AB 191) ⁱ					
Effective Date	Applicable FY	PPI (%)^j	Base (\$)	Indexed Tax Rate: PPI × Base (\$)	Total: Base + Indexed Tax Rate (\$)
July 1, 2017	2018	4.54	0.62228	0.02825	0.65053
July 1, 2018	2019	4.54	0.65053	0.02953	0.68006
July 1, 2019	2020	4.54	0.68006	0.03087	0.71093
July 1, 2020	2021	4.54	0.71093	0.03228	0.74321
July 1, 2021	2022	4.54	0.74321	0.03374	0.77695
July 1, 2022	2023	4.54	0.77695	0.03527	0.81222
July 1, 2023	2024	4.54	0.81222	0.03687	0.84909
July 1, 2024	2025	4.54	0.84909	0.03855	0.88764
July 1, 2025	2026	4.54	0.88764	0.04030	0.92794
July 1, 2026	2027	4.54	0.92794	0.04213	0.97007

ⁱ Projections in this table include indexed amounts under the current FRI program that expires on December 31, 2016.

^j The RTC projects an average inflation rate of 4.54 percent per year over the ten-year period. It is a baseline estimate, using an historical rate: the 15-year average inflation rate through FY2014. Actual inflation rates are likely to differ once the ten-year rolling average is established for each fiscal year. Moreover, AB 191 sets an annual cap of 7.8 percent. While that ceiling is not likely to be reached—at least in the first few years as a result of the smoothing-out effect of the ten-year rolling average—the maximum gasoline tax and impact on the average motorist under those conditions should be noted. Using a hypothetical annual indexing rate of 7.8 percent, the Guinn Center calculates the following: Motorists would pay an average of 37 cents per day in gasoline taxes over the ten-year period or about \$135 per year. At the end of 2026, gasoline taxes per gallon would amount to \$1.32, which is equal to: \$0.52 (statutorily-fixed rate), \$0.10 (current indexed tax rate), and \$0.70 (projected ten-year cumulative indexed tax rate). Revenue yields for RTC and the State would be in the \$4 million range.

Appendix A. Financial Breakdown of the Ten-Year FRI Extension (continued)

Table A2. Fuel Revenue Indexing (FRI) Over the Ten-Year Period: Projected Impact on the Average Motorist in Clark County, Nevada^{k, 104, 105}			
METRIC	EQUATION	CALCULATION	AMOUNT
Estimated Number of Gallons Per Vehicle (Per Year)	Average Miles Driven Per Vehicle ÷ Estimated Miles Per Gallon Per Vehicle	13,476 ÷ 28	481 Gallons
Gallons Per Day	Estimated Number of Gallons Per Vehicle ÷ Days in an Average Year	481 ÷ 365	1.32 Gallons
Average Cost Per Day Over the 10-Year Period	$ \begin{aligned} &([Gallons\ Per\ Day \times [Cumulative\ Indexed\ Amount_{FY2018}] \\ &+ [Gallons\ Per\ Day \times [Cumulative\ Indexed\ Amount_{FY2018} \\ &+ Indexed\ Tax\ Rate_{FY2019}]] + \dots + [Gallons\ Per\ Day \times \\ &[Cumulative\ Indexed\ Amount_{FY2026} + Indexed\ Tax\ Rate_{FY2027}]]]) \div \text{Two Fiscal Year Indexed Tax Rates in Each Calendar Year} \end{aligned} $	$ \begin{aligned} &([1.32 \times 0.028] + [1.32 \times \\ &[0.028 + 0.030]] + \dots + \\ &[1.32 \times [0.313 + 0.042]]) \div 20 \end{aligned} $	\$0.22 ^l
Estimated Cost Per Vehicle (Per Year) Over the 10-Year Period ¹⁰⁶	Average Cost Per Day Over the 10-Year Period × Number of Days in the Year	0.22 × 365	\$80.30 ^l

^k Projections in this table do not include indexed amounts under the current FRI program that expires on December 31, 2016.

^l As noted in Question 3, the RTC estimates an average of 24 cents per day in gasoline taxes over the ten-year period (\$87.60/year). The Guinn Center has calculated this amount to be approximately 22.0 cents per day (\$80.30/year). One possible reason for these discrepancies is that the RTC estimates are based on a car that gets 25 MPG, whereas the Guinn Center estimates are based on a car that gets 28 MPG.

Appendix B. Annual Rate of Indexing Calculation Procedure

The enabling legislation, AB 191, specifies the procedure for calculating the annual rate of indexing.^m Computation takes three factors into account:

- (1) The average highway and street construction inflation index (henceforth, average PPI), defined as the average percentage increase in the highway and street construction inflation index for the ten calendar years preceding the beginning of that fiscal year.¹⁰⁷ Given that inflation can fluctuate from year to year fairly sharply, using a ten-year average helps guard against short-term economic volatility and thus stabilize the index.¹⁰⁸ In setting the last calendar year of inflation to that preceding the beginning of the fiscal year, the legislation accounts for the time lag that arises naturally from PPIs being recalculated as final figures four months after the initial figures are released, which would affect the average, if calculated too early.¹⁰⁹
- (2) The applicable percentage, which is the ceiling on the yearly rate of indexing, set by law at a maximum of 7.8 percent.
- (3) The adjusted average highway and street construction inflation index (henceforth, adjusted PPI), that is, an amount that is equivalent to the average highway and street construction inflation index if the latter does not exceed the applicable percentage; however, if the average highway and street construction inflation index exceeded the applicable percentage in the *previous* fiscal year, the percentage-point difference between the average highway and street construction inflation index and the cap is added to the average highway and street construction inflation index in the *given* fiscal year, up until the applicable percentage is reached—this is the adjustment. The lesser of the applicable percentage or the adjusted average highway and street construction inflation index is the annual rate of indexing, which is multiplied against each fixed-tax portion to obtain the indexed amounts for disposition.

Average PPI and adjusted PPI are explicated further, below:

Average PPI

Assume, for the sake of illustration, that the annual rate of indexing is going to be established for fiscal year (FY) 2013-2014 (i.e., FY2014). In Nevada, FY2014 begins on July 1, 2013, and the ten calendar years preceding the beginning of that fiscal year are 2003-2012, inclusive. To obtain the average percentage increase for the ten calendar years preceding the beginning of that fiscal year, the inflation rate, operationalized here as the percentage change in year-to-year annual PPI—itself a twelve-month average—is calculated for each calendar year, the percentage change amounts are summed together, and this amount is divided by ten.¹¹⁰ The equation, using the hypothetical years in question, follows on the second (next) page of Appendix D:¹¹¹

^m The ten-year rolling average PPI, which is the applicable percentage if below 7.8 percent and not impacted by a catchup.

Appendix B. Annual Rate of Indexing Calculation Procedure (continued)

$$\left(\left(\frac{PPI_{2003} - PPI_{2002}}{PPI_{2002}} \right) + \left(\frac{PPI_{2004} - PPI_{2003}}{PPI_{2003}} \right) + \left(\frac{PPI_{2005} - PPI_{2004}}{PPI_{2004}} \right) + \left(\frac{PPI_{2006} - PPI_{2005}}{PPI_{2005}} \right) + \left(\frac{PPI_{2007} - PPI_{2006}}{PPI_{2006}} \right) + \left(\frac{PPI_{2008} - PPI_{2007}}{PPI_{2007}} \right) + \left(\frac{PPI_{2009} - PPI_{2008}}{PPI_{2008}} \right) + \left(\frac{PPI_{2010} - PPI_{2009}}{PPI_{2009}} \right) + \left(\frac{PPI_{2011} - PPI_{2010}}{PPI_{2010}} \right) + \left(\frac{PPI_{2012} - PPI_{2011}}{PPI_{2011}} \right) \right) \Bigg/ 10$$

Adjusted PPI

If the average PPI is not greater than the applicable percentage of 7.8 percent, as is the case for our FY2014 example (see Table 2), then the adjustment is zero, making the average PPI and the adjusted PPI effectively equivalent. Under these conditions, the annual rate of indexing is set equal to the average PPI. Assume, however, in a stylized example, that the average PPI for FY2013 had been 9.2 percent (it was actually 5.81 percent).¹¹² Under the law, this would have exceeded the applicable percentage, so the annual rate of indexing for FY2013 would have been set equal to the cap of 7.8 percent. Since the average PPI for FY2014, as calculated, is less than the applicable percentage, the difference in percentage points between the average PPI for FY2013 and the cap of 7.8 percent would be added to the FY2014 average PPI of 6.22 percent to obtain an adjusted PPI of 7.62 percent $([9.2 - 7.8] + 6.22)$ for FY2014. If the difference in percentage points between the average PPI for FY2013 and the capped amount, when summed with the average PPI for FY2014, exceeded the capped amount, the adjusted PPI for FY2014 would be set to the applicable percentage. There is cumulative carryover, as well: Overages are built into subsequent years, with the process continuing iteratively until the indexing rate catches up to inflation.¹¹³

Appendix C. Discussion of National Gas Tax Rankings

Nevada is frequently reported to have one of the highest gas taxes in the country. Several different sources have compiled this data, and none are quite comparable. The American Petroleum Institute data appears closest to accurate for Nevada, which is why its information is used for Figures 3 and 4.¹¹⁴ The U.S. Energy Information Administration compiles data on Federal and state motor fuels taxes but excludes county and local taxes; while this aids in the comparison of motor fuel taxes across states through the use of an internally consistent dataset, it is difficult to rank states without a sense of how county and local tax impositions affect rates.¹¹⁵ The Research Department of the Minnesota House of Representatives has also constructed a dataset of gasoline taxes, specifically, a survey of state and local gasoline taxes, using a range of sources, including the Federation of Tax Administrators, the American Petroleum Institute, the U.S. Energy Information Administration, and state revenue agency websites.¹¹⁶

There are some limitations to the Minnesota data—the Federal portion of the gasoline tax is not taken into account; the District of Columbia is excluded; and its information on Nevada is entirely incorrect (the state portion shows as 23.800 cents per gallon, rather than the correct statutorily-fixed portion of 18.455 cents per gallon, as per Table 1; and it shows a local tax of 18.300 cents in Nevada, but local taxes are anywhere from 10.350 cents to 15.350 cents, depending on county)—and these issues produce an erroneously-high Nevada gasoline tax ranking of sixth in the nation.¹¹⁷ That said, in seeking a reliability check for the American Petroleum Institute data, the Minnesota data is constructive: the Guinn Center added the Federal tax portion of 18.400 cents per gallon to each state's total, adjusted the Nevada total gasoline to the statutorily-fixed rate of 52.205 cents per gallon in Clark County, excluded the District of Columbia, and re-ranked total gasoline taxes by state. Unlike the U.S. Energy Administration data, which would have required knowledge of each state's county and local tax rates, the Minnesota data necessitated adding what is a known quantity, that is, the Federal gasoline tax rate; normally, the addition of a constant provides no marginal value in ranking data, as each observation (state and local gasoline tax, by state) would increase by the same amount, but it was instrumental in this case, as Nevada's tax rate was changed entirely, and that amount does include the statutorily-fixed Federal portion.

The reliability check is presented in Appendix Table C. The correlation between the American Petroleum Institute's gasoline taxes data and the Minnesota's House of Representatives' data is 0.894; the correlation between their rankings is 0.96. Given the high correlation between the two datasets, the state-level gasoline tax data seems reasonably accurate. Thus, it appears that, amongst all 50 states, Nevadans pay anywhere from the tenth- to 14th-highest statutorily-fixed gasoline taxes, and among states in the Intermountain West, only California joins Nevada in the top fifteen. Even excluding FRI from consideration, that is reasonably high.

Appendix C. Discussion of National Gas Tax Rankings (continued)

Table C. State Gasoline Taxes, Ranked

American Petroleum Institute (API)			Minnesota House of Representatives Research Department			American Petroleum Institute (API)			Minnesota House of Representatives Research Department		
STATE	GAS TAX	RANK	STATE	GAS TAX	RANK	STATE	GAS TAX	RANK	STATE	GAS TAX	RANK
PA	69.80	1	PA	70.06	4	OH	46.40	26	OH	46.46	26
WA	67.80	2	WA	55.96	7	MT	46.15	27	MT	46.26	27
NY	61.80	3	NY	70.06	3	NE	45.10	28	NE	45.46	28
HI	61.40	4	HI	71.46	2	MA	44.94	29	MA	44.96	29
CA	56.97	5	CA	69.16	5	KY	44.40	30	KY	44.46	30
CT	56.70	6	CT	59.36	6	KS	42.43	31	KS	42.56	32
FL	54.98	7	FL	49.16	22	WY	42.40	32	WY	42.46	33
NC	52.65	8	NC	54.76	9	NH	42.23	33	NH	42.26	34
RI	52.40	9	RI	52.46	13	DE	41.40	34	DE	46.66	25
NV	52.26	10	NV	52.21	14	ND	41.40	35	ND	41.46	35
MD	51.90	11	MD	50.56	18	VA	40.79	36	VA	38.96	39
IL	51.85	12	IL	75.46	1	CO	40.40	37	CO	40.46	36
MI	51.66	13	MI	55.16	8	AR	40.20	38	AR	40.26	37
WV	51.60	14	WV	53.06	12	TN	39.80	39	TN	39.86	38
ID	51.40	15	ID	51.46	15	AL	39.31	40	AL	38.46	41
WI	51.30	16	WI	51.36	17	LA	38.41	41	LA	38.56	40
IN	50.47	17	IN	53.26	11	TX	38.40	42	TX	38.46	42
IA	50.10	18	IA	50.26	19	AZ	37.40	43	AZ	37.46	43
GA	49.57	19	GA	53.86	10	NM	37.28	44	NM	37.36	44
OR	49.52	20	OR	51.46	16	MS	37.19	45	MS	36.86	45
VT	48.86	21	VT	49.26	21	MO	35.70	46	MO	35.76	46
ME	48.41	22	ME	49.46	20	OK	35.40	47	OK	35.46	47
SD	48.40	23	SD	48.46	23	SC	35.15	48	SC	35.26	48
UT	47.81	24	UT	43.66	31	NJ	32.90	49	NJ	32.96	49
MN	47.00	25	MN	47.06	24	AK	30.65	50	AK	27.46	50

Appendix D. Current, Prospective, and Repealed FRI Provisions, by State

Table D. Fuel Revenue Indexing (FRI), by State	
State	CURRENT
Florida	The state portion of the motor fuel tax rate that is distributed to the Florida Department of Transportation is adjusted (indexed) to the general rate of inflation using the Consumer Price Index (CPI) every January; the state portion of the motor fuel tax rate that is distributed to local governments (the Constitutional Fuel Tax, the County Fuel Tax, and the Municipal Fuel Tax) is not indexed. Florida has indexed its motor fuel taxes to inflation (using the CPI) since 1985, though it has adjusted the formula several times over the past 31 years. ¹¹⁸
Georgia	The Transportation Funding Act of 2015 (HB 170) authorized an annual adjustment of the motor vehicle fuel excise tax, based on the increase or decrease of motor vehicle fuel efficiency and the annual percentage increase or decrease in the Consumer Price Index (CPI). These adjustments began on July 1, 2016, and will continue through July 1, 2018. Beginning July 1, 2019, the annual adjustment will exclude the step that uses the CPI. ¹¹⁹
Maryland	Pursuant to the Transportation Investment Act of 2013, motor fuel tax rates are indexed to the CPI. Effective July 1, 2013, the tax may increase each July 1 thereafter but cannot exceed 8 percent of the motor fuel tax rate effective in the previous year. Aviation gasoline fuel is exempt. ¹²⁰
Nevada	Washoe County began indexing all motor fuels subject to that county's fuels taxes to the Consumer Price Index (CPI), effective October 1, 2003, and pursuant to AB 516 (72 nd Legislative Session). Effective January 1, 2010, all motor fuels and special fuels delivered into the county are subject to the Producer Price Index (PPI) and the CPI under SB 201 (75 th Legislative Session). Clark County began indexing motor vehicle and special fuels to the PPI, effective January 1, 2014, through December 31, 2016, pursuant to AB 413 (77 th Legislative Session) and Clark County Ordinance No. 4126; aviation fuels are exempt. ¹²¹
New Hampshire	New Hampshire enacted into law (SB 367) a one-time increase to the state tax on motor fuels, based on the Consumer Price Index (CPI) from 2003 to 2013, and estimated to be 4.2 cents above the rate at the time of legislative passage of 18 cents per gallon. Indexing began on July 1, 2014, and the indexed state tax on motor fuels is set at that rate—with no additional increases permitted—until the bonds authorized to widen a portion of I-93 are paid on full or twenty years after the initial bond issuance (whichever comes first). ¹²²
Rhode Island	As of July 1, 2015, and every other year subsequently, the gasoline tax is adjusted by the percentage increase in the Consumer Price Index for all Urban Consumers (CPI-U), determined as of September 30 of the prior calendar year. ¹²³
Utah	Effective January 1, 2016, Utah instituted a new (variable) rate of 12 percent of the statewide wholesale price of gasoline (the variable rate replaced the previously fixed rate of 24.5 cents/gallon); this amount is indexed to the rate of inflation. Per the legislation (HB 362), the inflation index is the Consumer Price Index for All Urban Consumers (CPI-U). ¹²⁴

Note: Table D continues on the next page.

Appendix D. Current, Prospective, and Repealed FRI Provisions, by State (continued)

Table D. Fuel Revenue Indexing (FRI), by State (cont'd)	
State	PROSPECTIVE
Michigan	Amongst other provisions, House Bill 4738 (Public Act 176 of 2015) amended the Motor Fuel Tax Act to adjust the fuel tax rates for gasoline and diesel annually to the change in the Consumer Price Index (CPI) or the lesser of 5 percent. This provision goes into effect on January 1, 2022. ¹²⁵
Nevada	In the 78 th Legislative Session, the Nevada State Legislature passed AB 191. This piece of legislation puts the question of whether inflation indexing of motor vehicle and special fuels should be continued in Clark County annually for the period January 1, 2017, through December 31, 2026, to registered voters in the county, the majority of which must approve it in November 2016 for indexing to continue. At the same election, a question will also be placed on the ballots of each of the additional counties in Nevada—with the exception of Washoe County, for which statutory provisions for fuel revenue indexing are already in place—that asks whether a majority of registered voters in the given county would approve annual fuel revenue indexing for January 1, 2017, through December 31, 2026 (via enacted ordinance by the county board of commissioners), on motor vehicles and special fuels. Should a majority of registered voters in a given county fail to pass its ballot initiative, it would have no bearing on the outcome in any other county; that is, fuel revenue indexing is operationalized on a county-by-county basis, pending the results of the November 2016 General Election. ¹²⁶
North Carolina	In 2015, legislation (SB 20) was enacted that would adjust the gas tax automatically based on two factors: population increases (75 percent) and changes in the Consumer Price Index (CPI; 25 percent). These requirements go into effect in January of 2017. ¹²⁷
State	REPEALED
D.C.	The District of Columbia began indexing its gas tax to the Consumer Price Index (CPI) in 1982 but eliminated the indexing formula in 1985. ¹²⁸
Maine	Between July 1, 2003, and July 1, 2011, Maine indexed its motor fuels annually, with the adjustment based on the CPI. Indexing was repealed effective January 1, 2012. ¹²⁹
Massachusetts	The General Court of Massachusetts passed House Bill 3535 in 2013, which would have indexed the gas tax to inflation beginning in 2015. However, the indexing requirements of the measure were repealed via ballot initiative in November 2014, so they were never effectuated. ¹³⁰
Wisconsin	Beginning in 1985, the Wisconsin State Legislature authorized an annual indexing adjustment on the state gas tax based on inflation and overall fuel consumption. In 1997, the consumption factor was eliminated, and the inflation adjustment was tied to the Consumer Price Index (CPI). In 2005, the Legislature repealed the annual indexing adjustment, with the last adjustment applied on April 2, 2006. Since that time, occasional efforts have been made to restore fuel revenue indexing but to no avail. On October 30, 2015, State Representative Robb Kahl, along with several other representatives and co-sponsored by two senators, introduced AB 468, which would have adjusted the motor vehicle fuel tax to reflect the average annual change in CPI, beginning on May 1, 2017. The annual increase would have required approval by the Joint Committee on Finance on March 31 of each year to effectuate the increase on April 1 of each year. However, on April 13, 2016, the bill failed to pass, pursuant to Senate Joint Resolution 1. ¹³¹



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The Kenny C. Guinn Center for Policy Priorities is a 501(c)(3) nonprofit, bipartisan, independent research center focused on providing fact-based, relevant, and well-reasoned analysis of critical policy issues facing Nevada and the Intermountain West. The Guinn Center engages policy-makers, experts, and the public with innovative, data-driven research and analysis to advance policy solutions, inform the public debate, and expand public engagement.

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⁹⁷ Regional Transportation Commission of Southern Nevada. 2016. "Proposed 10-Year Extension of Fuel Revenue Indexing: Frequently Asked Questions (FAQs)." Available: http://www.rtcnv.com/fri/docs/FRI_Ext-FAQs-July2016.PDF.

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⁹⁹ Stephen P.A. Brown and Kylelar P. Maravich. 2013. "The Shortfall in Funding Nevada's Roads and Highways: 2013." Center for Business and Economic Research at the University of Nevada, Las Vegas. Available: <http://cber.unlv.edu/publications/NevadaHighwayFund.pdf>.

¹⁰⁰ U.S. Department of Transportation, Federal Highway Administration. 2008. "Congestion Pricing: A Primer: Overview." Available: <http://www.ops.fhwa.dot.gov/publications/fhwahop08039/fhwahop08039.pdf>.

¹⁰¹ Keith Laing. "California to Test Taxing Drivers by the Mile." *The Hill*. January 21, 2016. Available: <http://thehill.com/policy/transportation/266626-california-testing-mileage-fees-as-gas-tax-replacement>.

¹⁰² Rita Beamish. "Are Special Fees for Driving Green a Penalty?" *Stateline*. May 1, 2014. Available: <http://www.govtech.com/transportation/Are-Special-Fees-For-Driving-Green-a-Penalty-.html>.

¹⁰³ Keith Laing. "California to Test Taxing Drivers by the Mile." *The Hill*. January 21, 2016. Available: <http://thehill.com/policy/transportation/266626-california-testing-mileage-fees-as-gas-tax-replacement>.

¹⁰⁴ This table is designed to illustrate the math underlying the projections provided by the RTC. It also relies on RTC's assumption that the average motorist drives a sedan for 13,476 miles each year. See: Regional Transportation Commission of Southern Nevada. 2016. "Proposed 10-Year Extension of Fuel Revenue Indexing: Frequently Asked Questions (FAQs)." Available: http://www.rtcnv.com/fri/docs/FRI_Ext-FAQs-July2016.PDF. Here, an average midsize sedan, with an automatic transmission and four-cylinder engine, for model year 2015, manufactured by a Japanese company, is assumed by the Guinn Center. This hypothetical vehicle gets up to 25 MPG (city) and 35 MPG (highway); "Estimated Miles Per Gallon Per Vehicle" is based on the U.S. Department of Energy's estimate of 28 combined city/highway MPG (using regular gasoline) for the particular automobile in question. See: U.S. Department of Energy. "Fuel Economy of 2015 Midsize Cars." Available: https://www.fueleconomy.gov/feg/byclass/Midsize_Cars2015.shtml.

¹⁰⁵ Given that this table projects the impact on the average motorist, the assumed fuel in question is gasoline, though some cars use diesel. Revenue yields may vary in accordance with gallons of special fuels (including diesel) that are consumed over the ten-year period.

¹⁰⁶ Amounts are for an average year and do not account for the two leap years over the ten-year period, nor do they include the ten cents per gallon indexed under the current FRI program or the statutorily fixed rates. In addition, the estimated cost per vehicle (per year) reflects the average over the entire ten-year period; as indexing cumulates from year-to-year, the estimated cost per vehicle (per year) in Year 1 would be \$6.79, and in Year 10, it would be \$160.50.

¹⁰⁷ Per AB 191, the highway and street construction inflation index is defined as the Producer Price Index (PPI) for Highway and Street Construction until that Index ceased to be published and the PPI for Other Nonresidential Construction thereafter or, if that index ceases to be published by the United States Department of Labor (DOL), the published index that most closely measures inflation in the costs of highway and street construction, as determined by the RTC. According to the Office of Highway Policy Information, which is part of the U.S. Department of Transportation, the Bureau of Labor Statistics, a unit of DOL, discontinued the PPI for Highway and Street Construction in July 2010. See: U.S. Department of Transportation, Office of Highway Policy Information. 2014. "National Highway Construction Cost Index (NHCCI): Frequently Asked Questions About Indexes." Available: <http://www.fhwa.dot.gov/policyinformation/nhcci/faq.cfm>.

¹⁰⁸ Nevada State Legislature. 77th (2013) Session. "Minutes of the Meeting of the Assembly Committee on Taxation: Testimony of Brian Gordon (C.P.A., Principal, Applied Analysis) on AB 413." Available: <http://www.leg.state.nv.us/Session/77th2013/Minutes/Assembly/TAX/Final/576.pdf>.

¹⁰⁹ Nevada State Legislature. 77th (2013) Session. "Minutes of the Meeting of the Assembly Committee on Taxation: Testimony of John Swendseid (representing Clark County and the Regional Transportation Commission of Southern Nevada) on AB 413." Page 13. Available: <http://www.leg.state.nv.us/Session/77th2013/Minutes/Assembly/TAX/Final/576.pdf>; on recalculated indexes (final figures), specifically, the four-month difference between the release of initial figures and final figures, see: U.S. Department of Labor, Bureau of Labor Statistics. "Producer Price Indexes: Frequently Asked Questions (FAQs) [Question No. 20]." Available: <http://www.bls.gov/ppi/ppifaq.htm#20>.

¹¹⁰ The inflation rate for any given calendar year is obtained by subtracting the index—here, PPI—for the previous calendar year from the current calendar year and dividing by the index from the previous calendar year, that is, $(PPI_t - PPI_{t-1}) / (PPI_{t-1})$, where t is time in calendar years.

¹¹¹ As noted in the first endnote for Appendix B, the highway and street construction inflation index currently is comprised of two separate Bureau of Labor Statistics series—the PPI for Highway and Street Construction (until that index ceased to be published in 2010) and, subsequently, the PPI for Other Nonresidential Construction. To obtain the data to calculate this equation, two separate sources would be required. For the PPI for Highway and Street Construction (2002-2010), see: U.S. Department of Labor, Bureau of Labor Statistics. “Data, Tables & Calculators by Subject: Producer Price Index Industry Data (NDUBHWY--BHWY--), 2000-2010.” Available: http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?series_id=NDUBHWY--BHWY--. For the PPI for Other Nonresidential Construction (2011-2012), see: U.S. Department of Labor, Bureau of Labor Statistics. “Data, Tables & Calculators by Subject: Producer Price Index Industry Data (NDUBONS--BONS--), 2010-2014.” Available: http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?series_id=NDUBONS--BONS--. The two indexes are not comparable in terms of annual averages; therefore, the inflation rate for 2011 requires an adjustment to calculate the equation. In addition, only six months of data—January through June—are available for 2010 (PPI for Highway and Street Construction), so only the six-month average, rather than the twelve-month average, is obtainable for that year. One could use the six-month average for the PPI for Other Nonresidential Construction (June through December) as an alternative, but that would mean that the inflation rate for that year would require the adjustment described previously for 2011 as a result of non-comparability across the two indexes.

¹¹² The ten-year average for calendar years 2002 through 2011 is 5.81 percent, which should be the rate of indexing for FY2013. See: Nevada State Legislature. 77th (2013) Session. “Impacts of Fuel Tax Indexing: A Fiscal Review (Exhibit H presented at the Meeting of the Assembly Committee on Taxation, March 21, 2013).” Page H-2. Available: <http://www.leg.state.nv.us/Session/77th2013/Minutes/Assembly/TAX/Final/576.pdf>.

¹¹³ Nevada State Legislature. 77th (2013) Session. “Minutes of the Meeting of the Assembly Committee on Taxation: Testimony of John Swendseid (representing Clark County and the Regional Transportation Commission of Southern Nevada) on AB 413.” Page 12. Available: <http://www.leg.state.nv.us/Session/77th2013/Minutes/Assembly/TAX/Final/576.pdf>.

¹¹⁴ Slight discrepancies exist for both gasoline and diesel taxes (52.26 cents per gallon for gasoline versus the correct statutorily-fixed rate of 52.205 cents per gallon; and 54.21 cents per gallon for diesel versus the correct statutorily-fixed rate of 52.150 cents per gallon). See: American Petroleum Institute. 2016. “State Motor Fuel Taxes (Rates Effective 7/1/2016; Revised 8/9/2016).” Available: <http://www.api.org/~media/Files/Statistics/StateMotorFuel-OnePagers-July-2016.pdf>.

¹¹⁵ U.S. Department of Energy, Energy Information Administration. 2016. “Federal and State Motor Fuels Taxes.” Available: <http://www.eia.gov/petroleum/marketing/monthly/xls/fueltaxes.xls>.

¹¹⁶ Research Department of the Minnesota House of Representatives. 2015. “Survey of State and Local Gasoline Taxes.” Available: <http://www.house.leg.state.mn.us/hrd/pubs/ss/ssgastax.pdf>.

¹¹⁷ Research Department of the Minnesota House of Representatives. 2015. “Survey of State and Local Gasoline Taxes.” Available: <http://www.house.leg.state.mn.us/hrd/pubs/ss/ssgastax.pdf>.

¹¹⁸ Florida Department of Transportation, Office of Comptroller—General Accounting Office. 2016. “Transportation Tax Sources: A Primer.” Pages 7-11. Available: <http://www.dot.state.fl.us/officeofcomptroller/pdf/GAO/RevManagement/TaxPrimer.pdf>.

¹¹⁹ Georgia Department of Revenue. 2015. “Policy Bulletin MFT-2015-01: HB 170—Transportation Funding Act of 2015.” Available: https://dor.georgia.gov/sites/dor.georgia.gov/files/related_files/document/LATP/PolicyBulletin/MFT-2015-01_HB_170_-_Transportation_Funding_Act_of_2015.pdf.

¹²⁰ Comptroller of Maryland. “Frequently Asked Questions About the Transportation Investment Act.” Available: http://taxes.marylandtaxes.com/Business_Taxes/Taxpayer_Assistance/Business_Tax_FAQs/Motor_Fuel_Tax/Transportation_Investment_Act_FAQs/.

¹²¹ For Washoe County, see: Nevada Department of Motor Vehicles, Motor Carrier Division. 2015. “Fuel Tax Rates and FY 16 Washoe County Indexed Taxes Changes.” Available: <http://www.dmvnv.com/pdf/forms/mcfy16rateswashoe.pdf>. For Clark County, see: Nevada State Legislature. 77th (2013) Session. “Assembly Bill 413: As Enrolled.” Available: http://www.leg.state.nv.us/Session/77th2013/Bills/AB/AB413_EN.pdf; Clark County Commission. 2013. Clark County Ordinance No. 4126. Codified: “Chapter 4.07 - SUPPLEMENTAL FUEL TAX.”

Available: https://www.municode.com/library/nv/clark_county/codes/code_of_ordinances?nodeId=TIT4RETA_CH4.07SUFUTA.

¹²² National Conference of State Legislatures. 2016. "Recent Legislative Actions Likely to Change Gas Taxes."

Available: <http://www.ncsl.org/research/transportation/2013-and-2014-legislative-actions-likely-to-change-gas-taxes.aspx>.

¹²³ State of Rhode Island General Laws. § 31-36-7. Available: <http://webserver.rilin.state.ri.us/Statutes/title31/31-36/31-36-7.HTM>.

¹²⁴ On the legislative change, see: Michael Russell. 2015. "T4America Blog: Utah Makes a Bipartisan Move to Increase State and Local Transportation Funding to Help Meet the Demands of High Population Growth." Transportation for America. Available: <http://t4america.org/2015/08/13/utahs-bipartisan-move-to-increase-state-and-local-transportation-funding-will-help-meet-the-demands-of-high-population-growth/>. For specification of the inflation index, see: State of Utah 2015 General Session. "H.B. 362 Transportation Infrastructure Funding." Available: <http://le.utah.gov/~2015/bills/static/HB0362.html>.

¹²⁵ Michigan State Legislature, Senate Fiscal Analysis. 2015. "S.B. 414 & H.B. 4370, 4614, 4616, 4736, 4737, & 4738: Summary as Enacted." Available: <http://www.legislature.mi.gov/documents/2015-2016/billanalysis/Senate/htm/2015-SFA-0414-N.htm>.

¹²⁶ Nevada State Legislature. 78th (2015) Session. "Assembly Bill 191: As Enrolled." Available: https://www.leg.state.nv.us/Session/78th2015/Bills/AB/AB191_EN.pdf.

¹²⁷ Sean Slone. 2015. "State Gas Tax Increases, 2015." Council of State Governments Knowledge Center. Available: <http://knowledgecenter.csg.org/kc/content/state-gas-tax-increases-2015>.

¹²⁸ Jeffrey Ang-Olson, Martin Wachs, and Brian D. Taylor. 1999. "Variable-Rate State Gasoline Taxes." *Working Paper UCB-ITS-WP-99-3*. Institute of Transportation Studies, University of California at Berkeley. Available: <http://www.its.berkeley.edu/sites/default/files/publications/UCB/99/WP/UCB-ITS-WP-99-3.pdf>.

¹²⁹ On the annual adjustment, see: Maine Revenue Services: Sales, Fuel & Special Tax Division. 2007 (issued), 2012 (amended). "Instructional Bulletin: Excise Tax Bulletin #2." Available: <https://www1.maine.gov/revenue/fueltax/gas/Excise2Gasolinerevised021712.pdf>. On the date of the last increase associated with indexing, see: Maine Revenue Services: Sales, Fuel & Special Tax Division. 2011. "General Information Bulletin: No. 101." Available: <https://www1.maine.gov/revenue/salesuse/GIB101FINAL082011.pdf>.

¹³⁰ National Conference of State Legislatures. 2016. "Recent Legislative Actions Likely to Change Gas Taxes." Available: <http://www.ncsl.org/research/transportation/2013-and-2014-legislative-actions-likely-to-change-gas-taxes.aspx>.

¹³¹ On Wisconsin's history with motor fuel indexing adjustments, see: Wisconsin Department of Transportation. "Transportation Finance Issues: What is the History of the State Gas Tax and Passenger Vehicle Registration Fees?" Available: <http://wisconsin.gov/Documents/about-wisconsin/who-we-are/dept-overview/history.pdf>; bill text for 2015 Assembly Bill (AB) 468 is available at: <http://docs.legis.wisconsin.gov/2015/related/proposals/ab468>; bill status of AB 468 is available at: <http://docs.legis.wisconsin.gov/2015/proposals/ab468>.