The Economic Impact of RhodeWorks: An Accelerated Transportation Restoration Plan

PREPARED BY

Regional Economic Models, Inc. (REMI)

Christopher Judson, Senior Economic Associate

PREPARED FOR

The Rhode Island Department of Revenue, Office of Revenue Analysis

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Castle Hill Lighthouse, 2012 Transatlantic Race
Compliments of Chip Leakas, Rhode Island Tourism Division

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Executive Summary

Rhode Island ranks last in the nation for overall bridge condition[1]. The RhodeWorks accelerated transportation plan seeks to achieve a goal of 90% structurally sufficient bridges, the federally mandated minimum, by 2025, with the intention of improving safety, making Rhode Island more attractive for businesses and to benefit local consumers.[2] The dilapidation of Rhode Island's transportation infrastructure has reached the point where if many of the failing bridges are not repaired soon, the costs of bridge improvements will grow as the state will soon be required to replace, instead of repair, its transportation infrastructure.

Regional Economic Models, Inc. (REMI) was engaged by the Rhode Island Department of Revenue's (DOR) Office of Revenue Analysis (ORA) on behalf of the Rhode Island Department of Transportation (RIDOT) to model the economic and demographic effects of the RhodeWorks transportation infrastructure improvement and restoration plan. Our analysis includes the economic and demographic impacts over an 11-year time period associated with: 1) the construction of transportation infrastructure capital improvements; 2) project financing options, 3) avoided costs of bridge closings and postings to the state; and 4) benefit programs to support the trucking industry included in the RhodeWorks proposal. DOR, the Rhode Island Department of Administration's (DOA) Office of Management and Budget (OMB), and RIDOT provided the necessary data for our analysis. REMI used our PI+ model of the Rhode Island state economy and calibrated the control forecast to closely adhere to the State's consensus economic forecast as adopted at the May 2015 Revenue Estimating Conference. REMI consulted with RIDOT to best reflect the types of project spending variables to be used for the analysis. ORA provided REMI with various points of clarification pertaining to data inquiries, financing options, and avoided costs of bridge closings and postings. ORA and OMB played a fundamental role in making this analysis possible through the acquisition of data and the review of the economic impact simulations.

After building the new consensus forecast baseline control, REMI modeled a variety of project components and potential outcomes that have been aggregated to the eight scenarios identified in the *Scenario Key* on the following page. All scenarios account for various futures that outline the difference between RhodeWorks and the alternative constrained resources transportation plan. As such, the results included in the report are not based on the aggregate total spending inputs of the RhodeWorks proposal, but rather, the differences between the RhodeWorks proposal and the constrained resources transportation plan that will be executed in the absence of RhodeWorks.

[1] FHWA data: https://www.fhwa.dot.gov/bridge/deficient.cfm.
As of 2014. Shows that 23% of RI's bridges are structurally deficient, the highest rate in the country (including all 50 states, DC, and Puerto Rico).
[2] http://www.dot.ri.gov/news/rhodeworks.php

All of the proposed RhodeWorks scenarios analyzed by REMI include the rebuilding of the Route 6/10 highway corridor (apart from the transit system) as well as other transportation network restorations and infrastructure improvements.

Scenario Key:

Scenarios	6/10 Highway	6/10 Transit	Bridge Tolling	Gas Tax Increase	Diesel Tax Increase
Scenario One (S1)	Y	Y	Y	N	N
Scenario Two (S2)	Y	N	Y	N	N
Scenario Three (S3)	Y	Y	Y	Y	N
Scenario Four (S4)	Y	N	Y	Y	N
Scenario Five (S5)	Y	Y	Y	N	Y
Scenario Six (S6)	Y	N	Y	N	Y
Scenario Seven (S7)	Y	Y	Y	Y	Y
Scenario Eight (S8)	Y	N	Y	Y	Y

Scenario One depicts the complete RhodeWorks proposal including additional federal funding of $400 million to build the Route 6/10 Transit system. In Scenario One, all of the financing for these improvements would be via the institution of a bridge tolling regime on the State's major highways and interstates. The bridge tolling program would apply to 17 or so bridge overpasses and/or underpasses with tolls only charged to full size semi-tractor trucks with attached trailer (Federal Highway Administration Class 8 trucks and above). The revenue generated from the 100 percent tolling financing mechanism was estimated by RIDOT to be $60 million annually.

Scenarios Three, Five, and Seven have identical transportation infrastructure capital spending plans as Scenario One, but finance these improvements via a combination of tolling and gasoline and/or diesel tax increases. In these scenarios, the revenue generated from increased gasoline and/or diesel fuel taxes were estimated by ORA and OMB to be $12.5 million annually leaving $47.5 million in revenue to be generated by the tolling financing mechanism. No consideration was given to whether the increased gas and/or diesel tax revenue estimates provided by OMB and ORA would actually be realized given retail motor fuel price competition from Massachusetts. Nor was the stability of the gasoline and/or diesel tax revenue stream considered, even though, in general, the consumption of gasoline has been declining over time

Scenario Two has the same project financing guidelines as Scenario One; however, in Scenario Two it is assumed that the federal government will not provide the $400 million necessary for the 6/10 Transit system and as such, no 6/10 Transit system would be developed. Scenarios Four, Six, and Eight have the same project financing guidelines as Scenarios Three, Five, and Seven but without the federal provision of $400 million for the 6/10 Transit system.

Table 1, provides a summary of the economic and demographic simulation results for each of the eight scenarios. All dollars are rounded to the nearest million. Employment and population are reported in individual units of measurement. One job equals an average job count as reported by the Bureau of Economic Analysis for one year of employment.[3] The results reflect the difference between the current constrained resource transportation plan and the RhodeWorks proposal under the various financing options included for each of the eight scenarios.

Table 1: Summary Results Total Impact 2015-2025 – Difference from Baseline

Metric	Units	S1	S2	S3	S4	S5	S6	S7	S8
Total Employment	Individuals	6,487	3,194	6,656	3,363	6,143	2,850	6,399	3,106
Gross State Product	Millions of Current $	$ 538	$ 225	$ 560	$ 247	$ 500	$ 187	$ 530	$ 217
Output	Millions of Current $	$ 963	$ 408	$ 1,010	$ 455	$ 908	$ 353	$ 959	$ 404
Personal Income	Millions of Current $	$ 521	$ 241	$ 510	$ 230	$ 485	$ 206	$ 498	$ 218
Real Disposable Personal Income	Millions of Current $	$ 344	$ 129	$ 263	$ 47	$ 287	$ 71	$ 275	$ 59
Population	Individuals	4,340	2,184	3,443	1,288	3,675	1,519	3,558	1,402

Table 2: Project Spending & State Funded Liability Total Cost 2015-2025

Metric	Units	S1	S2	S3	S4	S5	S6	S7	S8
Capital Spending	Millions of Current $	$ 896	$ 496	$ 896	$ 496	$ 896	$ 496	$ 896	$ 496
In-State Funding Liability	Millions of Current $	**$ 160**	**$ 160**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**	**$ 194**

The In-State funding liability are the costs that will be paid by private non-farm businesses, state and local government, residential consumers and farms as a result of the various proposed financing mechanisms analyzed by REMI. The $160 million for Scenarios One and Two are the result of the in-state costs of the 100 percent tolling financing regime. The In-State costs are $34 million higher for Scenarios Three through Eight as a portion of the tolling financing is shifted to gasoline and/or diesel fuel tax increases which are borne primarily by Rhode Island businesses and consumers. It is important to understand that the tolling financing regime shifts a segment of the cost of the RhodeWorks project onto semi-tractor trailer trucks that pass through the state without stopping. That is, these trucks' trips originate at an out of state location and terminate at an out of state location and simply use Rhode Island's roads as a conduit for making the trip. For more

[3] http://bea.gov/regional/definitions/

information on the allocation of the cost burden for the various financing regimes under Scenarios One through Eight, see the *Policy Designs* section of this report.

As is evident from Table 2, in all scenarios, each of the economic metrics show positive results from the RhodeWorks proposal relative to the constrained resources transportation plan. The reason for this is, as constructed, the RhodeWorks proposal generates the majority of its funding from the federal government and/or from non-Rhode Island based economic actors. Under Scenario One, personal income increases by $521 million during the 11 year period as the federal government expends $400 million on the 6/10 Transit component independently of any state funding for the same and the source of funding for the remaining components of the RhodeWorks proposal is completely funded by tolling large semi-tractor trucks with trailers that use the state's highways as a conduit to get from out-of-state Point A to out-of-state Point B.. In Scenario Four, on the other hand, where no 6/10 Transit project is built and the gas tax increase largely impacts Rhode Island consumers, Rhode Island personal income shows a net increase of $230 million over the 11 year period. This increase is largely attributable to the fact that nearly 80 percent of the revenue needed to fund the RhodeWorks proposal is generated from the tolling regime which spreads more of the costs to non-Rhode Island based sources.

Bear in mind the importance of real disposable personal income. Real disposable personal income measures the "purchasing power" of nominal personal income by taking into account the impact of increased prices that result from the higher transportation costs incurred from the RhodeWorks proposal. In all eight scenarios, real disposable personal income demonstrates a positive effect, albeit at a significantly lower level than nominal personal income. Thus, even after accounting for the increased costs imposed on the Rhode Island economy from the RhodeWorks proposal, in the aggregate Rhode Island consumers are "better off" under RhodeWorks than under the constrained resources transportation plan.

Below are select summary highlights and points of clarification that will aid the reader when reviewing the results contained in the report.

- The results shown are based on the increased transportation infrastructure improvement and development capital cost spending under RhodeWorks, in-state project financing costs under RhodeWorks, and the avoided costs of the closing and posting of bridges under RhodeWorks when compared to the current constrained resources transportation plan.
- The economic benefits of the RhodeWorks proposal are significantly positive because the majority of the project funding comes from outside of the state, either through tolls on semi-tractor trucks with trailers that merely pass through the state without stopping or the federal government.
- RhodeWorks direct impacts on the construction sector have a strong Rhode Island based impact as the construction sector's supply chain and labor demand is supplied from Rhode Island based sources.

- The gas and diesel tax increase scenarios (Scenarios Three through Eight above) look very similar to the RhodeWorks base scenarios (Scenarios One and Two) because only $12.5 million in RhodeWorks project financing comes from gas and/or diesel tax increases, with $47.5 million still being generated through tolling.
- Scenarios One and Two have the greatest positive impact on income as these are the scenarios under which RhodeWorks is financed exclusively from the tolling of large semi-tractor trucks with trailers.
- Scenarios Three and Four which increase the state gasoline tax have the greatest positive impact on jobs in the short run because the impact of the gasoline tax increase is borne more by households rather than businesses. In the long run, however, an increase in gasoline and/or diesel taxes could affect business location decisions particularly if enough of the native labor force moves out of state.
- All scenarios show an increase in all the economic measures tracked in the REMI model; employment, personal income, GDP, etc.

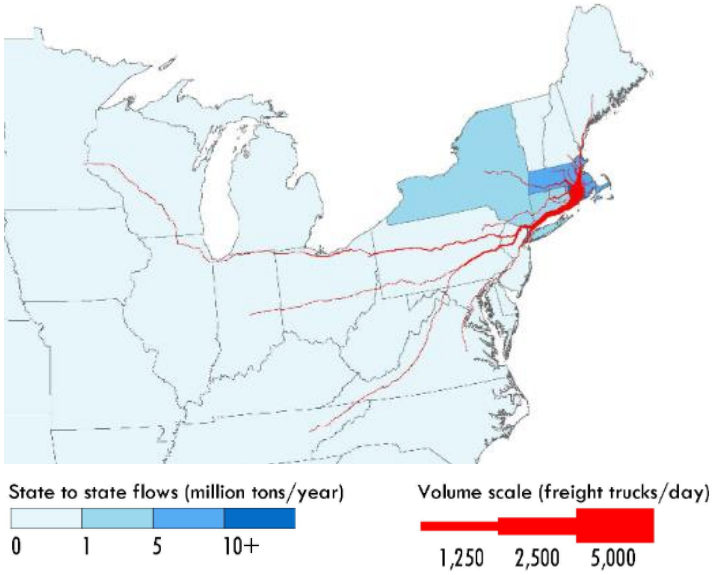
Contents

Introduction

The Rhode Island Department of Transportation (RIDOT) designs, constructs, and maintains the state's surface transportation system. RIDOT manages the statewide multimodal transportation network, consisting of 3,300 lane miles of roadway, 1,154 bridges, five rail stations, and more than 60 miles of bike and pedestrian paths.[4] Rhode Island suffers from an aging road infrastructure that is in need of immediate repair, as almost 33% of Rhode Island bridges are functionally obsolete and almost another 23% are structurally deficient.[5] The average rate of functionally obsolete and structurally deficient bridges per state nationally is 14% and 10% respectively. A 2008 Minnesota Department of Transportation study on the Economic Impacts of the I-35W Bridge Collapse concluded that in addition to the direct negative impacts in loss of life and industry, each day road-users were required to use a detour cost the region $400,000 per day, or $2.86 per user per day.[6]

A vibrant economy requires access to skilled and competitive labor markets, the ability to get goods and services to market effectively, and timely access to supply chains. Rhode Island is the second most densely populated state in the nation and is a part of Interstate 95 and other Northeast transportation corridors. Figure 1 below illustrates major truck freight flows to, from, and within Rhode Island in 2010.[6] In 2012, there was an estimated $66.9 billion of freight shipped across Rhode Island; this was only a 2% increase between 2007 and 2012.

Figure 1: Major Truck Freight Flows, To, From, and Within Rhode Island, 2010



[4] http://www.dot.ri.gov/news/rhodeworks.php
[5] https://www.fhwa.dot.gov/bridge/deficient.cfm
[6] http://www.dot.state.mn.us/i35wbridge/rebuild/pdfs/economic-impacts-from-deed.pdf

Rhode Island ranks last in the nation in overall bridge condition.[7] The degradation of the roads and bridges have reached the point where if many of the failing transportation infrastructure corridors are not repaired soon, the costs will become accelerated, as the state will soon be required to replace entire bridges and roads rather than repair and upgrade current infrastructure.

About REMI

REMI is an independent company with offices in Amherst, MA and Washington, DC that provides economic analysis and dynamic macroeconomic models to clients globally. Clients include federal and state government agencies, non-profit organizations, and private companies. REMI models have been applied to various policy areas including taxation, environment, economic development, health care, transportation, energy, and immigration.

In Rhode Island the Rhode Island Department of Revenue's Office of Revenue Analysis (ORA), and private organizations, such as the Rhode Island Public Expenditure Council, use REMI for a variety of purposes. On an ongoing basis, the REMI model in Rhode Island is used to evaluate the economic and fiscal impacts of incentive programs and various proposed policy changes, such as minimum wage and sale tax reform. Other in-state clients, including the University of Rhode Island, Raytheon, and Ninigret Partners, use the model on a case-by-case basis.

Focus of Analysis

The focus of the RhodeWorks analysis went beyond the economic impact on the region during the construction phase to capture the proposed financing strategy and the project's potential regional effects on the economy and the local population. The financing mechanism in the study consisted of a tolling regime where tolls are levied at bridge overpasses and/or underpasses. The tolls are to be assessed only on articulated trucks that are rated by the Federal Highway Administration as Class 8 and above. The tolling proposal was included as part of two general financing mechanisms: (1) the tolling regime was used solely to finance the costs of implementing the RhodeWorks program; and (2) the tolling regime was used in conjunction with an increase in excise tax rates for gasoline and/or diesel fuel to finance the costs of implementing the RhodeWorks program. Additional regional effects were also modeled and included cost savings from avoided closings and postings of bridges in Rhode Island and the creation of a benefits program for the trucking industry.

The analysis of the accelerated transportation restoration plan was modeled using REMI PI+. This economic and demographic analysis tool, which is capable of estimating the impacts on a regional economy from various investments and changes to the structure of the economy, provided a platform for in-depth impact analysis of RhodeWorks on Rhode Island's transportation

[7] FHWA data: https://www.fhwa.dot.gov/bridge/deficient.cfm.
As of 2014. Shows that 23% of RI's bridges are structurally deficient, the highest rate in the country (including all 50 states, DC, and Puerto Rico).

infrastructure and economy. See *Appendix I, PI+ Methodology* for more information on the REMI model.

RIDOT provided REMI with a current road and bridge maintenance plan that would be implemented in the absence of RhodeWorks (this plan was termed the constrained resources transportation plan). PI+ facilitated the examination of how the RhodeWorks proposal could impact Rhode Island's economy compared to RIDOT's current constrained resources transportation plan based on the consensus baseline economic forecast provided by the Office of Revenue Analysis.[8] The REMI analysis provides a time series analysis of the year-by-year changes of each component of the RhodeWorks proposal and highlights the impacts to Rhode Island's economy that result.

Based on information provided by RIDOT and OMB, REMI's analysis assumes that $60 million is collected from truck tolling; the minimum needed to pay the debt service and provide the coverage ratio for a $500 million revenue bond to fund the RhodeWorks proposal. The $60 million of annual toll revenue breaks down as follows: $40 million for annual debt service payments and $20 million for the required coverage ratio. The $20 million coverage ratio is required for debt issuance but may be, is assumed to be, spent on transportation infrastructure construction in the RhodeWorks proposal. The RhodeWorks proposal is to set the tolls at the minimum amounts required to generate $60 million annually. Current best estimates from RIDOT suggest a $20 to $25 toll to cross the state one-way will be required to generate $60 million. The less the amount of the toll, the less will be the negative impact on the trucking industry from the toll regime and the less revenue that will be collected that could be spent on bridge reconstruction.

[8] The baseline forecast provided by ORA was the Consensus Economic Forecast adopted by the principals at the May 2015 Revenue Estimating Conference.

Policy Designs

In designing the simulations to be analyzed with the PI+ model, REMI first adjusted the control economic forecast for the Rhode Island economy per the request of ORA. ORA provided REMI with the Consensus Economic Forecast adopted by the principals of the May 2015 Revenue Estimating Conference. The policy variables that were entered into PI+ for the construction period, the financing options and the additional regional effects are listed below.

The Construction of Transportation Infrastructure Capital Improvements & Repairs

In order to not confuse the reader when interpreting the impact of the RhodeWorks proposal, REMI only accounted for spending that was estimated to be different from the constrained resources transportation plan that RIDOT will execute in the absence of RhodeWorks. Based on data provided by RIDOT, no operations spending was modeled, as there was no difference in operations spending under RhodeWorks and the constrained resources transportation plan. The capital improvements data reflected actual construction and development related activities when building and repairing the transportation infrastructure. The detailed translator variables obtained from the U.S. Bureau of Economic Analysis' (BEA) satellite accounts allowed REMI to better adjust aggregate industry impacts to reflect more specific types of sub-industry production function characteristics. These translator variables are useful in tandem with REMI's methodology, because the REMI model is built upon industry data sources that have little to no data suppression. REMI avoids reporting specific results on six digit North American Industry Classification System (NAICS) codes, because if there are three or fewer firms in a region, the industries data and its supply chain become suppressed. By using the translator variables, REMI incorporates data that has a high degree of accuracy, while allowing modelers to change firm specific characteristics without jeopardizing the integrity of the overall industry profile or model. This includes adjustments made to the industry profiles supply chain, average labor productivity and compensation.

6/10 Highway

6/10 Highway refers to highway and bridge construction along the Route 6/10 corridor. To best model this type of construction, REMI used our detailed translator variable for industry sales highway, street and bridge construction (NAICS 237310). The total spending for this activity is $400 million dollars spread between 2016 and 2021.

Bridge Pipeline Capital Improvements

Bridge Pipeline Capital Improvements refers to general bridge repairs. The total spending for this category is actually a cost decrease of almost $13 million dollars, as the accelerated spending within the first five years of the RhodeWorks program on Bridge Pipeline Capital Improvements and the 6/10 Highway yields cost savings from avoiding bridge closures

and weight limit postings starting in year six and a net cost savings over the 11 year period. To adhere to the same principles used for construction spending, REMI modeled the cost savings as a loss in total detailed industry sales, highway, street and bridge construction, as this decrease in spending alone would demand less labor and locally sourced inputs.

Pavement Capital

Pavement Capital reflects general road resurfacing and paving activities when replacing highway and road corridor segments. The total spending for this activity is $58.5 million and is funded directly through tolling revenue starting in 2017 and ending in 2025. The detailed industry sales highway, street and road construction policy variable was again utilized for this policy variable.

Transit Capital Projects

Transit Capital Projects can include investments to rebuild and develop bus and rail terminals, dedicated bus lanes, repair and maintenance of rail line, facility maintenance, and some capital equipment spending. Without specific spending by type of category, REMI decided to use a simplified catchall category, modeling this as exogenous final demand for construction. The term exogenous final demand represents a shock or demand for a given industry into the region. If the state's industry can support the demand, the exogenous shock will be supplied entirely from Rhode Island based factors of production. If, however, the state's industry is unable to scale up production or its services to meet the increase in demand, any demand not met by Rhode Island factors of production would be met by factors of production from outside Rhode Island. The total spending for Transit Capital Projects was just under $80 million dollars in the RhodeWorks data provided by RIDOT and is planned to start in year 2021.

6/10 Transit

6/10 Transit is the development of designated bus rapid transit infrastructure as part of the designated 6/10 Highway interchange and corridor reconstruction. If approved by the federal government, an additional $400 million of federal transit dollars is anticipated to go into this program. To best reflect this type of construction, REMI used our detailed translator variable for industry sales and highway, street and bridge construction (NAICS 237310).

Gantry Construction

REMI only included the impacts of the in-state construction related spending of the automated, high speed tolling gantries. The total cost of the acquisition, operation and construction of the tolling gantries is estimated to be $43 million, however OMB and ORA allocated $11.70 million of the total expenditures to the Rhode Island economy based on

the Rhode Island Turnpike and Bridge Authority's experience with the Sakonnet River Bridge toll gantry. This was modeled as industry sales for the construction sector and only occurred in 2016.

Transportation Alternatives Capital Pipeline

REMI modeled the Transportation Alternatives Capital Pipeline as general construction within the state, as it reflects the development of a potential bike lane and other smaller transportation related capital improvement projects. This category includes spending of $19.6 million, spread over seven years starting in 2015.

Project Financing Options

The financing options discussed below are included in this analysis to reflect the economic impacts to Rhode Island from the in-state funding sources. All of the in-state financing impacts are scheduled to occur starting in 2017 and are modeled through the remainder of the analysis period ending in 2025.

Tolling Program

The tolling project financing options include the in-state portion of costs associated with the non-federal funded segment of RhodeWorks. The tolling program only charges a use fee to full size semi-tractor trucks with attached trailers. The tolling program inputs are separated based on two different in-state components of the financing.

The first assumption is that the net cost impact to the Rhode Island truck transportation industry totals $5.0 million a year and is modeled as an increased production cost for the truck transportation industry. The cost increase accounts for a benefits program provided to the truck transportation industry both in Rhode Island and outside of the state.

The second set of assumptions involve the composition of semi-tractor trailer truck traffic for Rhode Island. Based on information provided by the Rhode Island State Police and RIDOT, ORA and OMB determines that there were four categories of such truck traffic: inbound traffic, semi-tractor trucks with trailers with a trip origin that is out-of-state and a trip destination that is in Rhode Island; outbound traffic, semi-tractor trucks with trailers with a trip origin that is in Rhode Island and a trip destination that is out-of-state; local traffic, semi-tractor trucks with trailers with a trip origin and destination that is in Rhode Island; and pass through traffic, semi-tractor trucks with trailers with a trip origin and destination that is outside of Rhode Island but uses Rhode Island highways to facilitate the trip. ORA advised REMI to assume that all inbound traffic would pass all of the incurred toll costs to Rhode Island farm and non-farm businesses and state and local government. The impacts to the individual Rhode Island industries were determined using the intermediate input of truck transportation to the various industries as contained in the PI+

model. Thus, the additional cost impact to the Rhode Island economy from inbound traffic of $12.79 million a year, which is equal to 30.82% of the total tolling revenue raised, was added to the $5.0 million dollar direct impact to the Rhode Island trucking industry from tolls on all local and outbound traffic.

Gasoline & Diesel Fuel Taxes

To provide depth to the analysis of the RhodeWorks proposal, ORA and OMB required REMI to add three fuel tax scenarios to shift some of the cost burden of the RhodeWorks proposal to these revenue sources. All three fuel tax scenarios reflect a $12.5 million fuel tax increase per year from 2017 to 2025. The first fuel tax scenario assumes that the $12.5 million of revenues is generated from increasing the motor fuel tax for both gasoline and diesel. The second fuel tax scenario assumes that the $12.5 million of revenues is generated from increasing the tax on diesel fuel only. The third fuel tax scenario assumes that the $12.5 million of revenues is generated from increasing the motor fuel tax for both gasoline and diesel and adding an additional tax to diesel fuel (each tax increase is assumed to raise $6.25 million each). Each fuel tax scenario includes $47.5 million in tolling proceeds. The impact of this revenue on the Rhode Island economy is assumed to be distributed proportionally in the same manner as discussed in Tolling Program section above.

The increased gasoline and diesel taxes impact all private, non-farm industries, but do not include the following industries as they are tax exempt, or eligible for a refund of motor fuel taxes paid, per Rhode Island General Law Sections 31-36-1(4), 31-36-13, and 31-36-15.

Public Road Motor Fuel Tax Exempt Industries:

Forestry and logging; Fishing, hunting, and trapping - NAICS 113-114
Farm - 111-112
Agriculture and forestry support activities - 115
Air transportation - 481
Rail transportation - 482
Water transportation - 483
Federal Military - NA
Federal Civilian - NA

The policy variable utilized to model the impact of motor fuel tax increases is the consumer price of motor vehicle fuels, lubricants and fluids. The business related impacts were modeled as a production cost increase and were spread based on weights obtained from the intermediate demand for refined petroleum products by Rhode Island industries. When spreading the fuel cost between the residential consumers and businesses, REMI used the following share-out based on current vehicle registrations by type provided the Rhode Island Department of Revenue's Division of Motor Vehicles.

Spreader for Businesses & Residential Sectors by Fuel Type

Forestry and logging; Fishing, hunting, and trapping - NAICS 113-114	
14%	Corporately Registered Gasoline Powered Vehicles
86%	Non-Corporately Registered Gasoline Powered Vehicles
77%	Corporately Registered Diesel Powered Vehicles
23%	Non-Corporately Registered Diesel Powered Vehicles

Avoided Costs of Bridge Closings and Postings

The avoided costs of bridge closings and postings reflect the savings to semi-tractor trucks with trailers and certain other trucks that would have incurred additional costs as a result of increased travel time and vehicle operating costs associated with detours around closed or weight posted bridges. The cost savings estimates were provided by ORA and OMB and only account for vehicle operating costs. The cost savings do not include any network benefits created from the 6/10 Highway or 6/10 Transit infrastructure improvements. The cost savings are estimated to continue through 2032, but per the time period constraint of the study, REMI only modeled the impacts through 2025. Between 2018 and 2025, the cost savings amounted to just under $10 million dollars over the eight year period. The cost savings were spread across the various industry sectors and government spending based on the same intermediate demand for trucking transportation methodology used in the tolling financing scenario. To reiterate, no additional cost savings or network benefits were included in the REMI analysis.

RhodeWorks Scenario Results Comparison

REMI used the methodology described in the previous section to model the economic and demographic impacts of the RhodeWorks proposal on the Rhode Island economy. The eight scenario results are limited to the 2015-2025 time period. The analysis of this time period complies with the RhodeWorks and constrained resources transportation plan data provided by RIDOT. To provide additional context behind the various economic and demographic indicators, REMI has provided the following analysis and supporting results. For detailed, annual results on the eight difference scenarios, please go to the *Appendix, III Summary Results Tables*

When compared to the current constrained resources transportation plan for Rhode Island, all forms of financing, both with and without the 6/10 Transit project, add jobs within the state. The analysis illustrates that scenarios including the 6/10 Transit project provide a greater economic return when compared to scenarios where the 6/10 Transit project is absent. The tables below illustrate the differences between the economic returns for situations with the 6/10 transit project under Scenario One compared to the other scenarios with the 6/10 Transit project.

Table 4: Comparison of Simulations – Difference from Scenario One as Reference Case

Category	Scenario 1 Reference	Differences 1 & 3	Differences 1 & 5	Differences 1 & 7
Total Employment	6,487	169	-344	-88
Private Non-Farm	6,148	189	-295	-54
Residence Adjusted	5,610	-111	-422	-267
Population	4,340	-897	-665	-782
Labor Force	2,800	-491	-398	-445
Gross State Product	$ 538	$ 22	$ (38)	$ (8)
Output	$ 963	$ 48	$ (55)	$ (4)
Personal Income	$ 521	$ (11)	$ (35)	$ (23)
Disposable Personal Income	$ 448	$ (11)	$ (31)	$ (21)
Real Disposable Personal Income	$ 344	$ (81)	$ (58)	$ (70)

According to the results, Scenarios Five and Six, where an annual $12.5 million diesel tax increase is imposed, are superlative in terms of these measures of economic return when compared to Scenarios One and Two. The same is true for Scenarios Seven and Eight as the implications of higher diesel taxes have significant impacts on Rhode Island businesses for two primary reasons. One, as outlined in the Policy Design, 77% of the impact of increased diesel taxes are incurred by businesses. Secondly, REMI assumed that all diesel fuel cost increases would be borne by entities located in the state.

Scenarios Two and Three provide greater employment, gross state product and output when compared to Scenarios One and Two, however, indicate an actual loss of in-state employment, population and labor force. In the gasoline tax only scenario, people begin to leave the state and move to surrounding areas that have become relatively more cost competitive. By increasing the cost for gasoline in this scenario the real buying power of consumers within the state has decreased as seen in real disposable income.

Table Five below shows the direct construction employment impact of the RhodeWorks proposal. When reviewing Table Five, the reason why the majority of the total employment is from the direct construction activity is because construction is 1) a labor intensive industry; 2) some but not all of the supplies to the construction industry are coming from within the state; 3) REMI modeled a small benefit from avoided postings and closings of bridges that did not offset the near-term relatively large costs of the RhodeWorks program. If REMI ran scenarios without the in-state costs, the percent of total employment would diminish significantly. In all the even numbered scenarios, the direct construction employment exceeds the total employment as the costs relative to the total job gains are reduced significantly if the 6/10 Transit program is not developed. See *Appendix IV: REMI PI+ Detailed Simulation Employment*, for specific component employment results.

Table 5: In-State Direct Job Creation of RhodeWorks 2015-2025 – Difference from Baseline

Direct Construction Employment	Total	Average	Percent of Total Employment
One	5,423	493	83.6%
Two	3,445	157	107.9%
Three	5,423	493	81.5%
Four	3,445	157	102.4%
Five	5,423	493	88.3%
Six	3,445	157	120.9%
Seven	5,423	493	84.7%
Eight	3,445	157	110.9%

Conclusion

In this study, REMI shows the economic impact of the RhodeWorks proposal viewed as the difference between the RhodeWorks proposal and the current constrained resources transportation plan for the period from 2015 through 2025. It included four different tolling and motor fuel tax financing mechanisms. Understanding the full effects on the Rhode Island economy will aid the state in solidifying the $400 million in federal funding for the 6/10 Transit project. The analysis concludes that the 6/10 Transit project will play an important role in the RhodeWorks proposal as it generates up to 50% of the total jobs created. The full RhodeWorks project, including the 6/10 Transit project and the 100% toll-based financing mechanism, will add 6,487 new jobs, $538 million in gross state product, $521 million in nominal personal income, and $344 million in real disposable personal income.

This study reviews several scenarios that are all projected to have a net positive impact on the Rhode Island economy. As well as the full RhodeWorks proposal, REMI evaluated alternative funding mechanisms that substitute increased revenues from gasoline and/or diesel taxes for some of the tolling revenues. These alternative funding mechanisms included a mix of tolls and increased motor fuel taxes, a mix of tolls and increased diesel fuel taxes, and a mix of tolls and increased gas and diesel taxes. In comparison to the full RhodeWorks project, the fuel tax scenarios created somewhat greater jobs impacts, but lower gains in real disposable personal income due to increased taxes on Rhode Island consumers and businesses. Since real disposable personal income is a measure of income taking into account higher consumer prices from higher gas and/or diesel taxes, this measure was lower in the fuel tax scenarios than under the RhodeWorks proposal financed 100 percent with tolls.

Disclosure

There are other ancillary impacts that are not included in this study due to the lack of data, limited potential economic impacts or the agreed upon scope of work. The list below includes REMI's account of any potentially significant effects that were not accounted for in the analysis or explicitly mentioned in the *Policy Designs* section.

Analysis Period

- At the time the proposal was accepted, the RIDOT assumed RhodeWorks would start in 2015. The majority of spending may begin in 2016; however, the total spending from 2016-2025 and the 2015-2025 project duration time period should be equal.

Project Financing

- The project financing through gas and/or diesel fuel taxes are assumed to be all locally affected price increases, and as such does not entirely reflect costs the state may be able to pass onto out-of-state vehicles. There was insufficient creditable data to support any discounting methodology and when including other ancillary impacts like spending responses of out-of-state tourists when encountering higher fuel costs.
- When estimating the ability of out-of-state trucks (inbound traffic) to pass their costs onto Rhode Island consumers, ORA advised REMI to assume all the inbound truck traffic would be able to pass 100% of the toll costs incurred onto Rhode Island consumers. REMI spread the trucking costs to the various private, non-farm sector industries, the farming sector and state and local government by the national estimated average of truck transportation as an intermediate input (supply chain).

Appendices

Appendix I: REMI PI+ Methodology

REMI used a one-region, 70-sector version of the PI+ model configured to the state of Rhode Island for this study. PI+ is a fully dynamic macroeconomic model of the state economy that can be utilized at a sub-state level. The current version PI+ model used in this study is v.1.7 and is calibrated to the last history year of 2013. The REMI model relies on four different quantitative methodologies in its framework, which allows them to highlight each other's strengths while compensating weaknesses. These methodologies include:

Input/output tabulation (IO) – IO modeling is sometimes called "social accounting" because it shows the interrelationships between different industries and households in the economy. This includes the flow of goods and services between firms in supply chains, final sales to households, and wages paid to and spent by individuals. These interconnections create multipliers. The data for the table comes from the Bureau of Labor Statistics (BLS)[9] and the theoretical underpinnings for IO modeling come from the Nobel laureate Wassily Leontief.

Econometrics – The REMI model includes statistical parameters for behavior of firms and households based on historical data. In modeling terms, this is the source of our elasticities and parameters. This includes how actors respond to changes in prices or wages and the "rate of adjustment" from a shock until the economy returns to a new balance.

Computable General Equilibrium – This is a broad class of models. Computable general equilibrium modeling adds market concepts and the principles of equilibrium economics to the REMI algorithm. This includes markets for housing, labor, consumer goods, and importantly, a concept of market shares and competitiveness for businesses. For example, consumers in the state of Rhode Island may demand automobiles, but in all likelihood those cars come from plants in Michigan or the Southeast, or even overseas. This flow of goods and services can change over time, and with it the attractiveness of the state for labor and capital, given changes in economic conditions.

Economic Geography – Geography gives the REMI model a sense of agglomeration, labor pooling, and economies of scale. Labor-intensive industries, such as healthcare or professional services, tend to cluster in urban centers where specialized pools of educated workers are easy to obtain. Manufacturers tend to do the same thing given their tendency to locate near their input suppliers, customers, and transportation hubs. This allows them to lower their costs and increase their productivity.

REMI began as a research inquiry, and the literature behind PI+ is public and oftentimes appears in peer-reviewed journals. These include the *Journal of Regional Science*, *American Economic*

[9] For the most recent BLS make and use table, which we then transform into an IO table from there, see, <http://www.bls.gov/emp/ep_data_input_output_matrix.htm>.

Review, and *the Review of Economics and Statistics.*[10] REMI only uses data from public sources. Our references include the Bureau of Economic Analysis (BEA), Bureau of Labor Statistics (BLS), the Census Bureau, and the Energy Information Administration (EIA) at the Department of Commerce and Department of Energy.[11] The REMI model exists in a block structure of simultaneous equations. Each of the five blocks in the figure below adds its own perspective on the economy. Block 1 is final demand and final production; it is the "macroeconomy" in terms of its total aggregates. That includes consumer spending, investment, net exports, government spending, and a subtraction for intermediate inputs in a local area. Block 2 is the business perspective on the economy; sales orders come in from Block 1, and industries have to make production decisions (in terms of hiring workers and investing in capital) to eventually generate their needed output. Block 3 is the demographic portion of the model, which includes births and deaths, how intra-national migration changes a state-level economy over time, and how the regional population chooses to participate in the labor force. Block 4 introduces equilibrium concepts to the REMI model: households appraise the labor market, housing, and the cost of living when making location decisions. For businesses, they make an analogous consideration about their costs for labor, capital, intermediates, and fuel. Block 5 quantifies regional competitiveness, which means how much an area will export and displace imports when competing on a domestic and international marketplace against other states and nations. The blocks and their key interactions are shown in Figures 1 and 2. This is the overall structure of REMI's representation of the state economy. Each rectangle is a "stock," a finite concept such as population or the number of jobs. Each arrow shows an equation that links them together. For example, the population times the participation rate equals the labor force; government spending, plus capital investment, plus net exports, plus consumption, and minus intermediates, then equals GDP.

[10] For For journal citations from the above publications, see p. 46 of our equations document online, <www.remi.com/download/documentation/pi+/pi+_version_1.4/PI+_v1.4_Model_Equations(2).pdf>.

[11] For a full listing of data sources and types, see our document online of data sources and procedures, <www.remi.com/download/documentation/pi+/pi+_version_1.4/Data_Sources_and_Estimation_Procedures.pdf>.

Figure 1: REMI Model Linkages

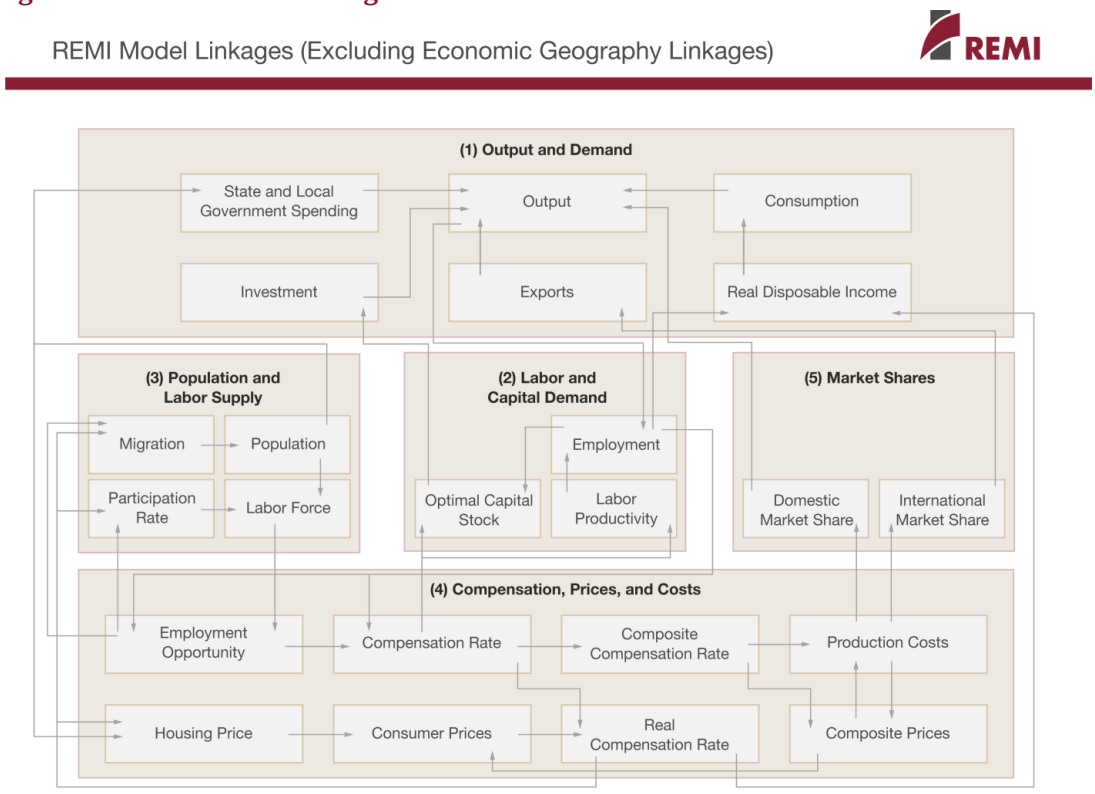
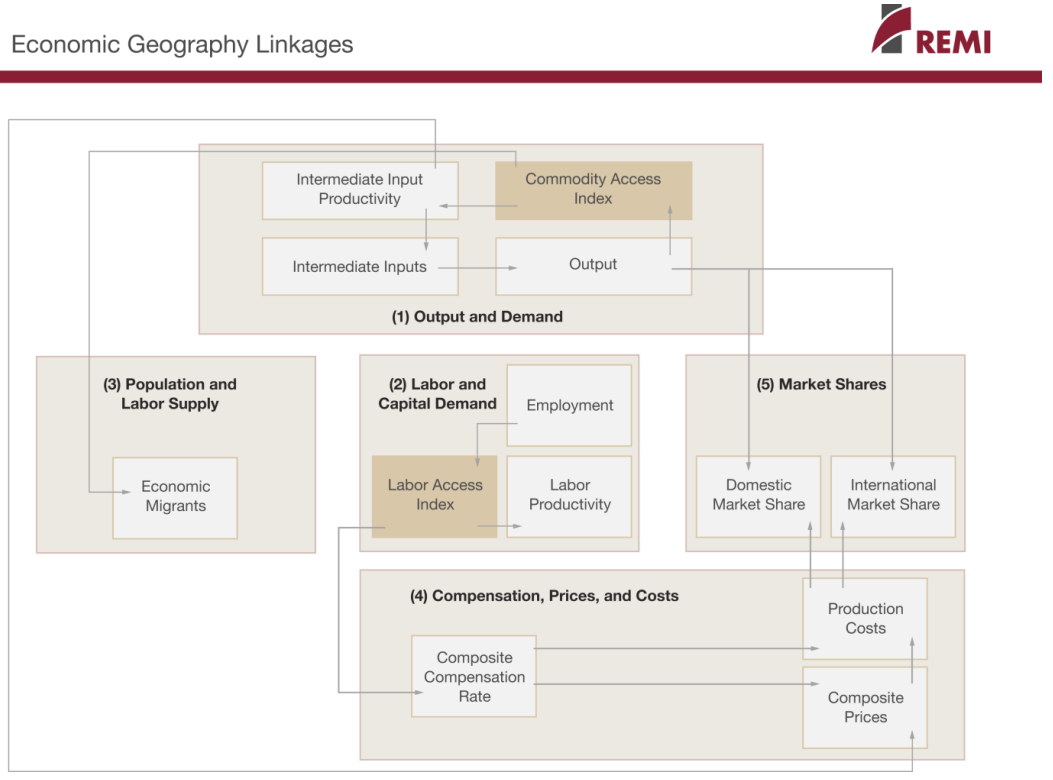


Figure 2: Economic Geographic Linkages



PI+ has two purposes: forecasting and policy analysis by examining alternative policy scenarios. The model has an underlying forecast based on the government data. To use the model to simulate the demographic and economic change due to energy cost changes, we introduced "exogenous" changes to the REMI variables as presented in *Appendix I*. They are called "policy variables" in the PI+ system and they represent the direct effect of policies or projects on the Rhode Island and other regional economies. From there, the model automatically passes these changes through the rest of the economic structure until the model system reaches a new equilibrium at some point in the future after adjusting over time.

Appendix II: Contact Information

Please contact REMI if you have any questions regarding the model or methodology behind the analysis.

Chris Judson
Senior Economic Associate
Regional Economic Models, Inc.
433 West St.
Amherst, MA 01002
Direct: 413-362-8870
Cell: 413-230-9185
Office: 413-549-1169
Chris.Judson@remi.com

Billy Leung
Vice President
Regional Economic Models, Inc.
433 West St.
Amherst, MA 01002
Direct: 413-362-8859
Cell: 413-695-4398
Office: 413-549-1169
Billy@remi.com

Appendix III: Summary Results Tables

Scenario 1 - Summary Table RhodeWorks Capital Program Impact - Difference between RhodeWorks & Constrained w. 6/10 Funded by Tolling

Category	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	Avg.
Total Employment	Individuals (Jobs)	373	972	1,441	1,902	1,553	1,201	470	-343	-503	-343	-236	6,487	590
Private Non-Farm Employment	Individuals (Jobs)	362	938	1,386	1,818	1,462	1,115	407	-346	-470	-313	-209	6,148	559
Residence Adjusted Employment	Individuals	328	854	1,242	1,657	1,361	1,068	434	-302	-469	-326	-236	5,610	510
Population	Individuals	86	298	520	853	1,053	1,153	1,073	311	-302	-345	-361	4,340	395
Labor Force	Individuals	66	202	357	580	709	756	666	155	-220	-236	-235	2,800	255
Gross Domestic Product	Millions of Current Dollars	29	79	124	171	145	116	45	-40	-58	-43	-31	538	49
Output	Millions of Current Dollars	52	138	220	303	258	208	81	-69	-101	-75	-53	963	88
Personal Income	Millions of Current Dollars	22	62	100	143	133	117	67	-14	-45	-36	-28	521	47
Disposable Personal Income	Millions of Current Dollars	19	53	85	122	114	101	58	-11	-39	-31	-24	448	41
Real Disposable Personal Income	Millions of Current Dollars	19	50	73	107	95	81	40	-21	-42	-31	-25	344	31
PCE-Price Index	2009=100 (Nation)	0	0	0	0	0	0	0	0	0	0	0	0	0

Scenario 2 - Summary Table RhodeWorks Capital Program Impact - Difference between RhodeWorks & Constrained, No 6/10 Transit Funded by Tolling

Category	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	Avg.
Total Employment	Individuals (Jobs)	373	972	1,197	1,229	716	416	-90	-537	-503	-343	-236	3,194	290
Private Non-Farm Employment	Individuals (Jobs)	362	938	1,150	1,168	663	375	-112	-510	-470	-313	-209	3,040	276
Residence Adjusted Employment	Individuals	328	854	1,028	1,066	624	369	-74	-495	-469	-326	-236	2,669	243
Population	Individuals	86	298	463	651	692	668	532	-197	-302	-345	-361	2,184	199
Labor Force	Individuals	66	202	316	438	455	423	309	-162	-220	-236	-235	1,356	123
Gross Domestic Product	Millions of Current Dollars	29	79	103	110	67	40	-12	-59	-58	-43	-31	225	20
Output	Millions of Current Dollars	52	138	183	196	119	72	-19	-104	-101	-75	-53	408	37
Personal Income	Millions of Current Dollars	22	62	84	96	68	50	11	-43	-45	-36	-28	241	22
Disposable Personal Income	Millions of Current Dollars	19	53	72	82	59	43	10	-36	-39	-31	-24	208	19
Real Disposable Personal Income	Millions of Current Dollars	19	50	60	69	44	29	-2	-41	-42	-31	-25	129	12
PCE-Price Index	2009=100 (Nation)	0	0	0	0	0	0	0	0	0	0	0	0	0

Scenario 3 - Summary Table RhodeWorks Capital Program Impact - Difference between RhodeWorks & Constrained w. 6/10 Funded by Gas Tax 1 (100% Gasoline)														
Category	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	Average
Total Employment	Individuals (Jobs)	373	972	1,426	1,900	1,562	1,220	495	-313	-470	-308	-201	6,656	605
Private Non-Farm Employment	Individuals (Jobs)	362	938	1,374	1,818	1,473	1,136	435	-314	-435	-277	-173	6,337	576
Residence Adjusted Employment	Individuals	328	854	1,198	1,626	1,339	1,055	427	-305	-468	-323	-233	5,499	500
Population	Individuals	86	298	475	780	961	1,048	961	195	-420	-463	-477	3,443	313
Labor Force	Individuals	66	202	328	536	654	696	605	94	-281	-296	-294	2,309	210
Gross Domestic Product	Millions of Current Dollars	29	79	123	171	146	118	48	-36	-54	-38	-26	560	51
Output	Millions of Current Dollars	52	138	219	304	261	212	87	-62	-93	-66	-43	1,010	92
Personal Income	Millions of Current Dollars	22	62	97	141	131	115	65	-15	-46	-36	-28	510	46
Disposable Personal Income	Millions of Current Dollars	19	53	83	120	112	99	57	-12	-39	-31	-25	437	40
Real Disposable Personal Income	Millions of Current Dollars	19	50	63	97	85	72	31	-30	-51	-40	-34	263	24
PCE-Price Index	2009=100 (Nation)	0	0	0	0	0	0	0	0	0	0	0	0	0

Scenario 4 - Summary Table RhodeWorks Capital Program Impact - Difference between RhodeWorks & Constrained, No 6/10 Transit Funded by Gas Tax 1: (100% Gasoline)														
Category	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	Average
Total Employment	Individuals (Jobs)	373	972	1,183	1,227	725	435	-65	-507	-470	-308	-201	3,363	306
Private Non-Farm Employment	Individuals (Jobs)	362	938	1,137	1,169	675	395	-84	-478	-435	-277	-173	3,229	294
Residence Adjusted Employment	Individuals	328	854	985	1,035	602	356	-81	-497	-468	-323	-233	2,558	233
Population	Individuals	86	298	419	578	600	563	419	-314	-420	-463	-477	1,288	117
Labor Force	Individuals	66	202	287	393	400	363	247	-223	-281	-296	-294	864	79
Gross Domestic Product	Millions of Current Dollars	29	79	102	110	68	42	-9	-56	-54	-38	-26	247	22
Output	Millions of Current Dollars	52	138	181	197	122	76	-13	-96	-93	-66	-43	455	41
Personal Income	Millions of Current Dollars	22	62	81	93	66	48	10	-44	-46	-36	-28	230	21
Disposable Personal Income	Millions of Current Dollars	19	53	70	80	57	42	9	-37	-39	-31	-25	198	18
Real Disposable Personal Income	Millions of Current Dollars	19	50	50	59	34	20	-11	-50	-51	-40	-34	47	4
PCE-Price Index	2009=100 (Nation)	0	0	0	0	0	0	0	0	0	0	0	0	0

Scenario 5 - Summary Table RhodeWorks Capital Program Impact - Difference between RhodeWorks & Constrained w. 6/10 Funded by Gas Tax 2: (100% Diesel)														
Category	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	Average
Total Employment	Individuals (Jobs)	373	972	1,409	1,865	1,513	1,161	429	-383	-542	-382	-273	6,143	558
Private Non-Farm Employment	Individuals (Jobs)	362	938	1,358	1,786	1,427	1,080	372	-380	-504	-345	-240	5,853	532
Residence Adjusted Employment	Individuals	328	854	1,202	1,613	1,313	1,019	385	-351	-518	-374	-283	5,189	472
Population	Individuals	86	298	496	811	995	1,083	992	222	-398	-446	-465	3,675	334
Labor Force	Individuals	66	202	341	553	672	712	617	102	-276	-294	-294	2,402	218
Gross Domestic Product	Millions of Current Dollars	29	79	121	168	141	112	41	-44	-63	-48	-36	500	45
Output	Millions of Current Dollars	52	138	216	298	253	202	75	-76	-108	-82	-60	908	83
Personal Income	Millions of Current Dollars	22	62	98	140	129	113	62	-18	-50	-41	-33	485	44
Disposable Personal Income	Millions of Current Dollars	19	53	83	120	111	97	54	-15	-43	-35	-29	417	38
Real Disposable Personal Income	Millions of Current Dollars	19	50	68	101	89	75	33	-28	-49	-38	-33	287	26
PCE-Price Index	2009=100 (Nation)	0	0	0	0	0	0	0	0	0	0	0	0	0

Scenario 6 - Summary Table RhodeWorks Capital Program Impact - Difference between RhodeWorks & Constrained, No 6/10 Transit Funded by Gas Tax 2: (100% Diesel)														
Category	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	Average
Total Employment	Individuals (Jobs)	373	972	1,166	1,192	677	376	-131	-577	-542	-382	-273	2,850	259
Private Non-Farm Employment	Individuals (Jobs)	362	938	1,122	1,136	628	340	-146	-544	-504	-345	-240	2,746	250
Residence Adjusted Employment	Individuals	328	854	988	1,022	576	320	-123	-544	-518	-374	-283	2,247	204
Population	Individuals	86	298	439	609	635	597	451	-287	-398	-446	-465	1,519	138
Labor Force	Individuals	66	202	300	411	419	379	260	-215	-276	-294	-294	958	87
Gross Domestic Product	Millions of Current Dollars	29	79	100	107	63	35	-16	-64	-63	-48	-36	187	17
Output	Millions of Current Dollars	52	138	179	191	113	66	-26	-110	-108	-82	-60	353	32
Personal Income	Millions of Current Dollars	22	62	82	93	65	46	7	-47	-50	-41	-33	206	19
Disposable Personal Income	Millions of Current Dollars	19	53	70	80	56	40	7	-40	-43	-35	-29	177	16
Real Disposable Personal Income	Millions of Current Dollars	19	50	55	63	38	23	-8	-48	-49	-38	-33	71	6
PCE-Price Index	2009=100 (Nation)	0	0	0	0	0	0	0	0	0	0	0	0	0

Scenario 7 - Summary Table RhodeWorks Capital Program Impact - Difference between RhodeWorks & Constrained w. 6/10 Funded by Gas Tax 3: (50/50 Gasoline Diesel)														
Category	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	Average
Total Employment	Individuals (Jobs)	373	972	1,418	1,883	1,537	1,190	462	-348	-506	-345	-237	6,399	582
Private Non-Farm Employment	Individuals (Jobs)	362	938	1,366	1,802	1,450	1,108	403	-347	-470	-311	-207	6,095	554
Residence Adjusted Employment	Individuals	328	854	1,200	1,619	1,326	1,037	406	-328	-493	-348	-258	5,343	486
Population	Individuals	86	298	486	796	978	1,065	976	208	-409	-455	-471	3,558	323
Labor Force	Individuals	66	202	334	544	663	704	611	98	-278	-295	-294	2,355	214
Gross Domestic Product	Millions of Current Dollars	29	79	122	169	144	115	44	-40	-59	-43	-31	530	48
Output	Millions of Current Dollars	52	138	217	301	257	207	81	-69	-100	-74	-52	959	87
Personal Income	Millions of Current Dollars	22	62	98	141	130	114	64	-17	-48	-38	-31	498	45
Disposable Personal Income	Millions of Current Dollars	19	53	83	120	111	98	55	-14	-41	-33	-27	427	39
Real Disposable Personal Income	Millions of Current Dollars	19	50	65	99	87	73	32	-29	-50	-39	-33	275	25
PCE-Price Index	2009=100 (Nation)	0	0	0	0	0	0	0	0	0	0	0	0	0

Scenario 8 - Summary Table RhodeWorks Capital Program Impact - Difference between RhodeWorks & Constrained, No 6/10 Transit Funded by Gas Tax 3: (50/50 Gasoline Diesel)														
Category	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	Average
Total Employment	Individuals (Jobs)	373	972	1,174	1,209	701	405	-98	-542	-506	-345	-237	3,106	282
Private Non-Farm Employment	Individuals (Jobs)	362	938	1,129	1,152	651	367	-115	-511	-470	-311	-207	2,987	272
Residence Adjusted Employment	Individuals	328	854	986	1,029	589	338	-102	-521	-493	-348	-258	2,402	218
Population	Individuals	86	298	429	593	617	580	435	-300	-409	-455	-471	1,402	127
Labor Force	Individuals	66	202	294	402	410	371	253	-219	-278	-295	-294	910	83
Gross Domestic Product	Millions of Current Dollars	29	79	101	109	65	38	-13	-60	-59	-43	-31	217	20
Output	Millions of Current Dollars	52	138	180	194	118	71	-20	-103	-100	-74	-52	404	37
Personal Income	Millions of Current Dollars	22	62	82	93	65	47	8	-46	-48	-38	-31	218	20
Disposable Personal Income	Millions of Current Dollars	19	53	70	80	56	41	8	-39	-41	-33	-27	187	17
Real Disposable Personal Income	Millions of Current Dollars	19	50	52	61	36	22	-10	-49	-50	-39	-33	59	5
PCE-Price Index	2009=100 (Nation)	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix IV: REMI PI+ Detailed Simulation Employment Results

Employment figures are reported in individual jobs. The total may exceed the shown annual employment impacts, as the total includes partial job counts.

6/10 Transit													
Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	0	0	237	650	799	741	518	164	0	0	0	3108	283
Government	0	0	7	24	38	44	42	31	0	0	0	185	17
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	0	0	1	1	2	1	1	0	0	0	0	7	1
Utilities	0	0	0	1	1	1	0	0	0	0	0	3	0
Construction	0	0	158	433	533	495	349	115	0	0	0	2083	189
Manufacturing	0	0	4	12	14	11	6	-1	0	0	0	46	4
Wholesale Trade	0	0	3	7	8	8	5	1	0	0	0	32	3
Retail Trade	0	0	13	36	45	42	31	13	0	0	0	180	16
Transportation and Warehousing	0	0	2	6	8	6	4	0	0	0	0	26	2
Information	0	0	1	3	3	3	2	0	0	0	0	11	1
Finance and Insurance	0	0	4	10	12	10	5	-1	0	0	0	40	4
Real Estate and Rental and Leasing	0	0	3	9	12	12	9	5	0	0	0	50	5
Professional, Scientific, and Technical Services	0	0	9	25	32	30	21	6	0	0	0	123	11
Management of Companies and Enterprises	0	0	1	2	2	1	0	-1	0	0	0	5	0
Administrative and Waste Management Services	0	0	5	15	19	18	12	3	0	0	0	73	7
Educational Services	0	0	1	4	5	4	3	1	0	0	0	19	2

Health Care and Social Assistance	0	0	11	30	36	34	24	8	0	0	0	142	13
Arts, Entertainment, and Recreation	0	0	2	5	6	5	3	0	0	0	0	21	2
Accommodation and Food Services	0	0	7	20	26	26	21	10	0	0	0	111	10
Other Services, except Public Administration	0	0	11	30	37	33	22	4	0	0	0	137	12
Avoided Costs of Closings & Postings													
Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	0	0	6	17	10	11	10	9	7	37	50	158	14
Government	0	0	0	1	1	1	1	1	1	2	3	11	1
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	0	0	0	0	0	0	0	0	1	0
Mining	0	0	0	0	0	0	0	0	0	0	0	1	0
Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	1	2	1	1	1	1	1	4	6	18	2
Manufacturing	0	0	2	5	4	4	4	3	3	10	14	47	4
Wholesale Trade	0	0	0	0	0	0	0	0	0	1	1	3	0
Retail Trade	0	0	1	3	1	1	1	1	1	7	7	23	2
Transportation and Warehousing	0	0	0	1	1	1	1	1	1	3	4	12	1
Information	0	0	0	0	0	0	0	0	0	0	1	2	0
Finance and Insurance	0	0	0	0	0	0	0	0	0	1	1	3	0
Real Estate and Rental and Leasing	0	0	0	0	0	0	0	0	0	1	1	3	0
Professional, Scientific, and Technical Services	0	0	0	1	0	0	0	0	0	2	2	6	1
Management of Companies and Enterprises	0	0	0	0	0	0	0	0	0	0	0	1	0
Administrative and Waste Management Services	0	0	0	1	0	0	0	0	0	1	2	6	1
Educational Services	0	0	0	0	0	0	0	0	0	0	0	1	0

Health Care and Social Assistance	0	0	0	1	1	1	1	1	0	3	3	11	1
Arts, Entertainment, and Recreation	0	0	0	0	0	0	0	0	0	1	1	3	0
Accommodation and Food Services	0	0	0	1	1	1	1	1	1	3	3	10	1
Other Services, except Public Administration	0	0	0	1	0	0	0	0	0	2	2	7	1
Tolling Program 30.8219% of O-O-S Trucking Passed onto Consumer													
Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	0	0	-139	-200	-243	-270	-286	-294	-297	-295	-289	-2314	-210
Government	0	0	-9	-13	-17	-21	-23	-25	-27	-28	-28	-192	-17
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-8	-1
Mining	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-7	-1
Utilities	0	0	0	0	0	0	0	0	0	0	0	-3	0
Construction	0	0	-16	-25	-29	-31	-31	-31	-29	-27	-25	-245	-22
Manufacturing	0	0	-26	-44	-56	-65	-70	-72	-73	-73	-71	-550	-50
Wholesale Trade	0	0	-3	-3	-4	-4	-4	-4	-4	-4	-4	-34	-3
Retail Trade	0	0	-24	-27	-29	-30	-31	-31	-31	-31	-30	-265	-24
Transportation and Warehousing	0	0	-21	-35	-45	-53	-58	-61	-63	-63	-63	-461	-42
Information	0	0	-1	-2	-2	-2	-2	-2	-2	-2	-2	-20	-2
Finance and Insurance	0	0	-3	-4	-4	-5	-5	-4	-4	-4	-4	-37	-3
Real Estate and Rental and Leasing	0	0	-2	-3	-4	-5	-5	-5	-5	-5	-5	-40	-4
Professional, Scientific, and Technical Services	0	0	-5	-7	-9	-10	-11	-11	-11	-12	-12	-87	-8
Management of Companies and Enterprises	0	0	-1	-2	-2	-2	-2	-2	-2	-2	-2	-19	-2

Administrative and Waste Management Services	0	0	-6	-9	-11	-13	-14	-14	-15	-15	-15	-111	-10
Educational Services	0	0	-1	-1	-2	-2	-2	-2	-2	-2	-2	-17	-2
Health Care and Social Assistance	0	0	-10	-12	-14	-16	-17	-17	-18	-18	-18	-141	-13
Arts, Entertainment, and Recreation	0	0	-2	-3	-4	-4	-5	-5	-5	-5	-5	-38	-3
Accommodation and Food Services	0	0	-8	-11	-14	-16	-17	-18	-19	-19	-19	-140	-13
Other Services, except Public Administration	0	0	-8	-10	-11	-11	-11	-11	-11	-10	-10	-93	-8
Gantry Construction - 11.696 Million in-state Construction													
Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	0	142	0	0	0	0	0	0	0	0	0	142	13
Government	0	4	0	0	0	0	0	0	0	0	0	4	0
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0
Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	99	0	0	0	0	0	0	0	0	0	99	9
Manufacturing	0	3	0	0	0	0	0	0	0	0	0	3	0
Wholesale Trade	0	1	0	0	0	0	0	0	0	0	0	1	0
Retail Trade	0	8	0	0	0	0	0	0	0	0	0	8	1
Transportation and Warehousing	0	1	0	0	0	0	0	0	0	0	0	1	0
Information	0	1	0	0	0	0	0	0	0	0	0	1	0
Finance and Insurance	0	2	0	0	0	0	0	0	0	0	0	2	0
Real Estate and Rental and Leasing	0	2	0	0	0	0	0	0	0	0	0	2	0
Professional, Scientific, and Technical Services	0	5	0	0	0	0	0	0	0	0	0	5	0

Management of Companies and Enterprises	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative and Waste Management Services	0	3	0	0	0	0	0	0	0	0	0	3	0
Educational Services	0	1	0	0	0	0	0	0	0	0	0	1	0
Health Care and Social Assistance	0	6	0	0	0	0	0	0	0	0	0	6	1
Arts, Entertainment, and Recreation	0	1	0	0	0	0	0	0	0	0	0	1	0
Accommodation and Food Services	0	4	0	0	0	0	0	0	0	0	0	4	0
Other Services, except Public Administration	0	5	0	0	0	0	0	0	0	0	0	5	0

Transportation Alternatives Capital Pipeline

Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	19	47	44	32	29	26	12	0	0	0	0	210	19
Government	1	2	2	2	2	2	2	0	0	0	0	12	1
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0
Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	13	33	31	23	21	19	9	0	0	0	0	148	13
Manufacturing	0	1	1	0	0	0	0	0	0	0	0	3	0
Wholesale Trade	0	0	0	0	0	0	0	0	0	0	0	2	0
Retail Trade	1	3	3	2	2	2	1	0	0	0	0	13	1
Transportation and Warehousing	0	0	0	0	0	0	0	0	0	0	0	1	0
Information	0	0	0	0	0	0	0	0	0	0	0	1	0
Finance and Insurance	0	1	1	0	0	0	0	0	0	0	0	2	0
Real Estate and Rental and Leasing	0	1	1	0	0	0	0	0	0	0	0	3	0

Professional, Scientific, and Technical Services	1	2	2	1	1	1	0	0	0	0	0	8	1
Management of Companies and Enterprises	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative and Waste Management Services	0	1	1	1	1	1	0	0	0	0	0	4	0
Educational Services	0	0	0	0	0	0	0	0	0	0	0	1	0
Health Care and Social Assistance	1	2	2	1	1	1	1	0	0	0	0	9	1
Arts, Entertainment, and Recreation	0	0	0	0	0	0	0	0	0	0	0	1	0
Accommodation and Food Services	1	1	1	1	1	1	1	0	0	0	0	7	1
Other Services, except Public Administration	1	2	1	1	1	1	0	0	0	0	0	6	1
Transit Capital Projects Simplified - Exogenous Final Demand Construction													
Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	0	0	0	0	0	0	64	109	115	163	95	546	50
Government	0	0	0	0	0	0	2	4	5	8	7	26	2
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0
Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	45	77	81	115	67	385	35
Manufacturing	0	0	0	0	0	0	1	2	2	3	1	9	1
Wholesale Trade	0	0	0	0	0	0	1	1	1	1	1	5	0
Retail Trade	0	0	0	0	0	0	3	6	6	9	6	30	3
Transportation and Warehousing	0	0	0	0	0	0	0	1	1	1	0	4	0
Information	0	0	0	0	0	0	0	0	0	1	0	2	0
Finance and Insurance	0	0	0	0	0	0	1	1	1	2	1	6	1

Real Estate and Rental and Leasing	0	0	0	0	0	0	1	1	1	2	2	7	1
Professional, Scientific, and Technical Services	0	0	0	0	0	0	2	4	5	7	4	22	2
Management of Companies and Enterprises	0	0	0	0	0	0	0	0	0	0	0	1	0
Administrative and Waste Management Services	0	0	0	0	0	0	1	2	2	3	2	12	1
Educational Services	0	0	0	0	0	0	0	1	1	1	1	3	0
Health Care and Social Assistance	0	0	0	0	0	0	3	5	5	7	4	24	2
Arts, Entertainment, and Recreation	0	0	0	0	0	0	0	1	1	1	0	3	0
Accommodation and Food Services	0	0	0	0	0	0	2	3	4	5	4	18	2
Other Services, except Public Administration	0	0	0	0	0	0	2	3	3	5	2	16	1

6/10 Highway - Highway and Street Construction

Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	0	103	571	876	770	669	313	0	0	0	0	3302	300
Government	0	3	19	37	45	47	38	0	0	0	0	188	17
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	0	0	1	2	2	1	1	0	0	0	0	7	1
Utilities	0	0	1	1	1	1	0	0	0	0	0	3	0
Construction	0	69	382	584	514	449	214	0	0	0	0	2213	201
Manufacturing	0	2	11	16	12	9	1	0	0	0	0	51	5
Wholesale Trade	0	1	6	9	8	7	3	0	0	0	0	34	3
Retail Trade	0	6	32	49	44	40	21	0	0	0	0	191	17
Transportation and Warehousing	0	1	6	8	7	5	1	0	0	0	0	29	3
Information	0	0	2	3	3	2	1	0	0	0	0	12	1

Finance and Insurance	0	2	9	13	10	8	1	0	0	0	0	44	4
Real Estate and Rental and Leasing	0	1	8	13	12	11	7	0	0	0	0	52	5
Professional, Scientific, and Technical Services	0	4	22	34	31	27	12	0	0	0	0	130	12
Management of Companies and Enterprises	0	0	2	2	1	1	-1	0	0	0	0	6	1
Administrative and Waste Management Services	0	2	13	21	18	16	7	0	0	0	0	77	7
Educational Services	0	1	3	5	5	4	2	0	0	0	0	20	2
Health Care and Social Assistance	0	5	26	40	35	31	15	0	0	0	0	150	14
Arts, Entertainment, and Recreation	0	1	4	7	5	4	1	0	0	0	0	23	2
Accommodation and Food Services	0	3	18	28	27	25	15	0	0	0	0	116	11
Other Services, except Public Administration	0	5	27	40	34	29	11	0	0	0	0	146	13

Bridge Pipeline Capital Improvement - Highway and Street Construction

Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	342	646	605	386	44	-109	-268	-374	-333	-253	-97	588	53
Government	10	26	33	31	20	10	-1	-10	-15	-16	-12	76	7
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	0	0	0	0	0	0	0	0	-1	0
Mining	1	2	1	1	0	0	-1	-1	-1	-1	0	2	0
Utilities	0	1	1	0	0	0	0	0	0	0	0	1	0
Construction	230	432	406	259	33	-67	-173	-245	-219	-168	-67	421	38
Manufacturing	7	12	10	5	-2	-5	-8	-9	-7	-5	-1	-3	0
Wholesale Trade	4	7	6	4	0	-1	-3	-4	-4	-3	-1	5	0
Retail Trade	19	37	35	24	5	-3	-12	-18	-17	-13	-6	51	5
Transportation and Warehousing	3	6	5	3	-1	-2	-4	-5	-4	-3	-1	-1	0

Information	1	3	2	1	0	-1	-1	-2	-1	-1	0	1	0
Finance and Insurance	5	10	8	4	-2	-4	-7	-8	-6	-4	-1	-3	0
Real Estate and Rental and Leasing	4	9	9	7	2	0	-3	-5	-5	-4	-2	12	1
Professional, Scientific, and Technical Services	12	24	23	15	2	-5	-11	-15	-14	-11	-4	17	2
Management of Companies and Enterprises	1	2	1	0	-1	-1	-2	-2	-1	-1	0	-4	0
Administrative and Waste Management Services	7	15	14	9	1	-3	-7	-10	-9	-7	-3	7	1
Educational Services	2	4	4	2	0	-1	-1	-2	-2	-1	-1	4	0
Health Care and Social Assistance	15	29	27	18	2	-5	-12	-17	-14	-11	-3	29	3
Arts, Entertainment, and Recreation	3	5	4	2	-1	-2	-3	-3	-3	-2	-1	1	0
Accommodation and Food Services	10	20	20	15	5	0	-6	-10	-10	-8	-3	34	3
Other Services, except Public Administration	16	29	26	16	-1	-7	-14	-19	-16	-12	-4	15	1
Pavement Capital													
Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	0	0	61	58	53	48	44	40	38	35	32	409	37
Government	0	0	2	3	3	3	3	3	3	3	3	27	2
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0	0	0	1	0
Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	41	38	35	32	30	28	26	24	22	276	25
Manufacturing	0	0	1	1	1	1	0	0	0	0	0	5	0
Wholesale Trade	0	0	1	1	1	0	0	0	0	0	0	4	0
Retail Trade	0	0	3	3	3	3	3	2	2	2	2	24	2

Transportation and Warehousing	0	0	1	1	0	0	0	0	0	0	0	3	0
Information	0	0	0	0	0	0	0	0	0	0	0	1	0
Finance and Insurance	0	0	1	1	1	1	0	0	0	0	0	4	0
Real Estate and Rental and Leasing	0	0	1	1	1	1	1	1	1	1	1	7	1
Professional, Scientific, and Technical Services	0	0	2	2	2	2	2	2	1	1	1	16	1
Management of Companies and Enterprises	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative and Waste Management Services	0	0	1	1	1	1	1	1	1	1	1	9	1
Educational Services	0	0	0	0	0	0	0	0	0	0	0	2	0
Health Care and Social Assistance	0	0	3	3	2	2	2	2	2	2	2	19	2
Arts, Entertainment, and Recreation	0	0	0	0	0	0	0	0	0	0	0	2	0
Accommodation and Food Services	0	0	2	2	2	2	2	2	2	2	2	16	1
Other Services, except Public Administration	0	0	3	3	2	2	2	2	2	1	1	18	2
Gas Tax Scenario 1: All Motor Vehicles (Gas Tax Only) Start 2017													
Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	0	0	-152	-200	-231	-249	-258	-262	-262	-259	-253	-2126	-193
Government	0	0	-11	-16	-20	-23	-26	-27	-29	-30	-30	-211	-19
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-7	-1
Mining	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-7	-1
Utilities	0	0	0	0	0	0	0	0	0	0	0	-3	0
Construction	0	0	-24	-34	-38	-38	-37	-35	-32	-29	-26	-293	-27
Manufacturing	0	0	-22	-37	-47	-54	-58	-60	-61	-61	-60	-460	-42

Wholesale Trade	0	0	-4	-4	-4	-4	-5	-4	-4	-4	-4	-38	-3
Retail Trade	0	0	-38	-39	-40	-40	-40	-40	-39	-39	-38	-353	-32
Transportation and Warehousing	0	0	-13	-20	-26	-30	-32	-34	-34	-35	-35	-258	-23
Information	0	0	-1	-2	-2	-2	-2	-2	-2	-2	-2	-18	-2
Finance and Insurance	0	0	-3	-4	-4	-4	-4	-4	-4	-3	-3	-32	-3
Real Estate and Rental and Leasing	0	0	-3	-4	-5	-5	-6	-6	-6	-6	-6	-46	-4
Professional, Scientific, and Technical Services	0	0	-5	-7	-9	-10	-10	-10	-11	-11	-11	-83	-8
Management of Companies and Enterprises	0	0	-1	-2	-2	-2	-2	-2	-2	-2	-2	-16	-1
Administrative and Waste Management Services	0	0	-6	-8	-9	-10	-11	-11	-11	-12	-11	-90	-8
Educational Services	0	0	-1	-2	-2	-2	-2	-2	-2	-2	-2	-18	-2
Health Care and Social Assistance	0	0	-11	-13	-15	-16	-17	-17	-18	-18	-18	-141	-13
Arts, Entertainment, and Recreation	0	0	-3	-3	-4	-4	-4	-4	-4	-4	-4	-35	-3
Accommodation and Food Services	0	0	-9	-12	-14	-16	-18	-19	-19	-20	-20	-148	-13
Other Services, except Public Administration	0	0	-8	-9	-9	-10	-10	-9	-9	-9	-8	-81	-7
Gas Tax Scenario 2: All Motor Vehicles (Diesel Tax Only) Start 2017													
Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	0	0	-167	-233	-277	-305	-321	-328	-330	-327	-320	-2609	-237
Government	0	0	-12	-18	-23	-26	-29	-31	-33	-34	-35	-241	-22
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-7	-1
Mining	0	0	0	-1	-1	-1	-1	-1	-1	-1	-2	-10	-1
Utilities	0	0	0	0	0	0	0	-1	-1	-1	-1	-4	0

Construction	0	0	-22	-33	-38	-40	-39	-38	-36	-33	-30	-308	-28
Manufacturing	0	0	-27	-45	-57	-66	-71	-73	-74	-74	-72	-558	-51
Wholesale Trade	0	0	-3	-4	-5	-5	-5	-5	-5	-5	-5	-42	-4
Retail Trade	0	0	-31	-34	-36	-37	-37	-38	-37	-37	-36	-322	-29
Transportation and Warehousing	0	0	-23	-37	-47	-53	-58	-61	-62	-63	-62	-465	-42
Information	0	0	-1	-2	-2	-3	-3	-3	-3	-3	-3	-23	-2
Finance and Insurance	0	0	-4	-5	-5	-6	-6	-5	-5	-5	-5	-45	-4
Real Estate and Rental and Leasing	0	0	-3	-4	-5	-6	-6	-6	-6	-6	-6	-48	-4
Professional, Scientific, and Technical Services	0	0	-6	-8	-10	-12	-12	-13	-13	-14	-14	-103	-9
Management of Companies and Enterprises	0	0	-1	-2	-2	-3	-3	-3	-3	-3	-2	-22	-2
Administrative and Waste Management Services	0	0	-7	-10	-13	-14	-15	-16	-16	-16	-16	-124	-11
Educational Services	0	0	-1	-2	-2	-2	-2	-3	-3	-3	-2	-20	-2
Health Care and Social Assistance	0	0	-12	-16	-18	-20	-21	-21	-22	-22	-22	-173	-16
Arts, Entertainment, and Recreation	0	0	-3	-4	-5	-6	-6	-6	-6	-6	-6	-48	-4
Accommodation and Food Services	0	0	-11	-14	-17	-19	-21	-22	-23	-24	-24	-175	-16
Other Services, except Public Administration	0	0	-10	-12	-13	-13	-13	-13	-13	-12	-12	-112	-10
Gas Tax Scenario 3: All Motor Vehicles (50/50 Gas & Diesel Tax) Start 2017													
Employment Aggregates													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Private Non-Farm	0	0	-159	-216	-254	-277	-290	-295	-296	-293	-287	-2368	-215
Government	0	0	-12	-17	-21	-25	-27	-29	-31	-32	-32	-226	-21
Farm	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Sector Private-Non Farm Employment													
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	**Avg.**
Forestry, Fishing, and Related Activities	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-7	-1

Mining	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-8	-1
Utilities	0	0	0	0	0	0	0	0	0	0	0	-4	0
Construction	0	0	-23	-33	-38	-39	-38	-36	-34	-31	-28	-300	-27
Manufacturing	0	0	-24	-41	-52	-60	-64	-67	-68	-67	-66	-509	-46
Wholesale Trade	0	0	-3	-4	-5	-5	-5	-5	-5	-5	-4	-40	-4
Retail Trade	0	0	-34	-36	-38	-39	-39	-39	-38	-38	-37	-337	-31
Transportation and Warehousing	0	0	-18	-29	-36	-41	-45	-47	-48	-49	-48	-361	-33
Information	0	0	-1	-2	-2	-2	-2	-3	-3	-3	-2	-20	-2
Finance and Insurance	0	0	-3	-4	-5	-5	-5	-5	-4	-4	-4	-39	-4
Real Estate and Rental and Leasing	0	0	-3	-4	-5	-5	-6	-6	-6	-6	-6	-47	-4
Professional, Scientific, and Technical Services	0	0	-6	-8	-10	-11	-11	-12	-12	-12	-12	-93	-8
Management of Companies and Enterprises	0	0	-1	-2	-2	-2	-2	-2	-2	-2	-2	-19	-2
Administrative and Waste Management Services	0	0	-6	-9	-11	-12	-13	-14	-14	-14	-14	-107	-10
Educational Services	0	0	-1	-2	-2	-2	-2	-2	-2	-2	-2	-19	-2
Health Care and Social Assistance	0	0	-12	-14	-16	-18	-19	-19	-20	-20	-20	-157	-14
Arts, Entertainment, and Recreation	0	0	-3	-4	-4	-5	-5	-5	-5	-5	-5	-41	-4
Accommodation and Food Services	0	0	-10	-13	-16	-18	-19	-20	-21	-22	-22	-162	-15
Other Services, except Public Administration	0	0	-9	-10	-11	-11	-11	-11	-11	-11	-10	-96	-9