Evaluation of Transportation Carbon Reduction Strategies for Rhode Island

Prepared by:

Cambridge Systematics, Inc.
200 River's Edge Drive, Suite 420
Medford, MA 02155

Prepared for:

Rhode Island Department of Transportation

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Table of Contents

List of Tables

List of Figures

Executive Summary

Objectives

Rhode Island has been working to mitigate climate change and reduce greenhouse gas (GHG) emissions for over a decade. Rhode Island's Act on Climate directed the Executive Climate Change Coordinating Council (EC4) to develop a plan for the State to meet its greenhouse gas (GHG) emissions reductions targets – 45 percent below 1990 levels by 2030, 80 percent below by 2040, and net-zero emissions by 2050. The Rhode Island Department of Environmental Management (RIDEM) and the Rhode Island Office of Energy Resources (OER) have led the development of that plan, referred to as the 2025 Climate Action Strategy.

The Rhode Island Department of Transportation (RIDOT) has evaluated transportation GHG reduction strategies to support the state's 2025 Climate Action Strategy update. This report summarizes the findings of the transportation strategy evaluation and identifies strategies and actions to reduce emissions from Rhode Island's transportation sector. It considers both short term strategies to meet 2030 targets as well as longer term transportation strategies to keep the State on track to meet its 2050 net-zero requirements. It should be stressed, that while RIDOT is leading the analysis of transportation strategies, many of the strategies are outside of RIDOT's purview; full implementation will require leadership from other state agencies, the state's municipalities, and in some cases the Governor and General Assembly.

Development Process

This evaluation was developed in close coordination with the RIDEM and OER team leading the Climate Action Strategy and with other state agencies including the Division of Statewide Planning (RIDSP) and the Rhode Island Public Transportation Authority (RIPTA). This analysis looks in detail at the emission reduction benefits of actions proposed in the state's long range and modal transportation plans, along with other transportation strategies that are being funded or considered through other sources. The evaluation also builds on RIDOT's 2023 Carbon Reduction Strategy and the state's 2021 Clean Transportation and Mobility Innovation Report.

Four categories of strategies are considered: zero-emission vehicles (ZEV), mode shift and vehicle-miles traveled (VMT) reduction, freight and congestion management, and pricing. A total of 15 specific strategies were evaluated. Most strategies were evaluated using the Transportation Evaluation and Carbon Reduction Tool (TEA-CART) developed by Cambridge Systematics, Inc. for Georgetown University. Other strategies were evaluated using custom methods making use of the best available local data and national research. The consultant supporting the Climate Action Strategy, E3, took high-level outputs from this analysis and used those outputs to estimate the GHG emissions benefits of transportation strategies collectively using their Pathways model.

Baseline Emissions Projections

This study looked at potential emission reductions from on-road vehicles in comparison to 1990 levels – the year against which future emission reduction targets are set – and also in comparison to baseline forecast levels in 2030, 2040, and 2050. Rhode Island's transportation sector emissions were approximately 4.38 million metric tons (MMT) of carbon dioxide-equivalent in 1990. This decreased to 3.61 MMT in 2019. Two future scenarios were evaluated: 1) a "Current Policy without ZEV Waivers" scenario and 2) and "Current Policy + ZEV Waivers" scenario. The Current Policy without ZEV Waivers scenario considers a future in which Rhode Island's adopted Advanced Clean Cars (ACCII) and Advanced Clean Trucks (ACT) rules are rolled back consistent with recent federal direction to overturn California's zero-emission vehicle (ZEV) program and to end the authority of other states to adopt standards consistent with that program. In this future, ZEV sales increase at a moderate rate over time based on market trends and federal fuel economy requirements. The Current Policy + ZEV Waivers scenario considers a future in which Rhode Island continues to implement the ACCII and ACT rules, which set standards for manufacturers to sell more rapidly increasing numbers of ZEVs over time.

Under the Current Policy without ZEV Waivers scenario, on-road vehicle emissions are projected to decline to 2.82 MMT in 2030 and 1.96 MMT in 2050 – still well above levels that are consistent with state targets. Under the Current Policy + ZEV Waivers scenario, surface transportation emissions are projected to decline to 2.58 MMT in 2030 and 0.52 MMT in 2050 – considerably lower than the Current Policy without ZEV Waivers scenario but still short of state targets. Additional strategies will therefore be needed to achieve levels consistent with state emission reduction targets.

Benefits and Costs of Emission Reduction Strategies

Baseline projections along with the collective benefits of all the strategies evaluated in this report are shown in Figure ES-1, for both scenarios. While baseline forecast emissions are much lower under the Current Policy + ZEV Waivers scenario, the impact of the additional strategies evaluated is much less under this scenario. This is because rapid adoption of clean vehicles, driven by regulation, already provides a greater benefit and additional benefits from clean vehicle incentives, vehicle miles travelled (VMT) reduction, or travel efficiency measures are reduced. As vehicles become much cleaner, the additional emissions benefit of reducing vehicle activity becomes much smaller.

Figure ES-1 Transportation Emissions Projections

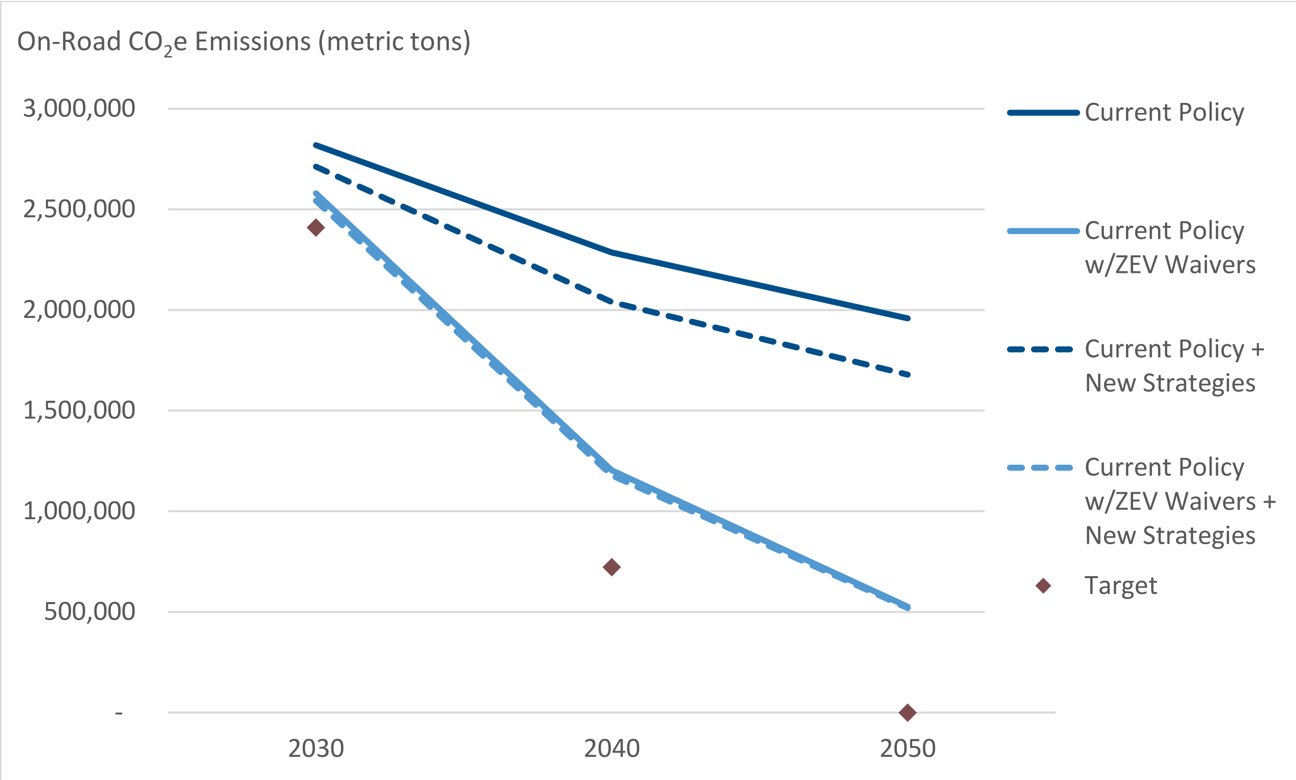

Table ES-1 shows the emissions benefit of each strategy in 2030 under both scenarios. Table ES-2 shows the annual cost in the 2026-2030 timeframe, the annual revenue or cost savings to the state (if any), and the net annual cost per ton of emissions reduced for the strategies under the Current Policy without ZEV Waivers scenario. Costs would be similar under the Current Policy + ZEV Waivers scenario, but cost-effectiveness would look somewhat less favorable for any strategy that had lower GHG reduction effects under this scenario.

Table ES-1 Emissions Benefits of Transportation Emission Reduction Strategies

Strategy	Current Policy without ZEV Waivers scenario: 2030 GHG Emissions or Change, Metric Tons	Current Policy without ZEV Waivers scenario: 2030 % Reduction vs. Baseline	Current Policy + ZEV Waivers scenario: 2030 GHG Emissions or Change, Metric Tons	Current Policy + ZEV Waivers scenario: 2030 % Reduction vs. Baseline
Baseline Emissions – On-road Sources	**2,818,900**		**2,579,700**	
Zero-Emission Vehicles				
Clean Vehicle Incentives	(33,300)	-1.2%	-	0.0%
EV Charging Infrastructure	(17,800)	-0.6%	-	0.0%
State and Municipal Fleet Electrification	(8,800)	-0.3%	-	0.0%
Transit and School Bus Electrification	(5,100)	-0.2%	-	0.0%
Mode Shift and VMT Reduction			-	0.0%
Active Transportation Infrastructure	(700)	0.0%	(600)	0.0%
Micromobility Programs, Services, And Incentives	(100)	0.0%	(100)	0.0%
Expanded Public Transit Services	(3,900)	-0.1%	(3,400)	-0.1%
Travel Demand Management Programs	(3,700)	-0.1%	(3,300)	-0.1%
Transportation-Efficient Land Use Patterns	(11,100)	-0.4%	(9,900)	-0.4%
Freight and Congestion Management			-	0.0%
Traffic Flow Improvements	(2,900)	-0.1%	(2,700)	-0.1%
Safety Service Patrol	(500)	0.0%	(500)	0.0%
Truck Idle Reduction	(1,400)	0.0%	(1,400)	-0.1%
Pricing			-	0.0%
Mileage-based User Fees	(100)	0.0%	(100)	0.0%
Peak-Period Pricing	(3,800)	-0.1%	(3,400)	-0.1%
Cap-and-Invest	(13,200)	-0.5%	(11,600)	-0.4%
Total	**(106,500)**	**-3.8%**	**(37,000)**	**-1.4%**
Target	**2,818,900**		**2,409,000**	
Gap	**303,400**		**133,700**	

Table ES-2 Costs and Cost-Effectiveness of Transportation Emission Reduction Strategies (Current Policy without ZEV Waivers Scenario)

Strategy	Annual Costs 2026-2030 ($M)	Annual State Revenue or Cost Savings 2026-2030 ($M)	Net Annual Cost / 2030 Emissions ($/ton)
Zero-Emission Vehicles			
Clean Vehicle Incentives	$6.3	$-	$189
EV Charging Infrastructure	$8.7	$-	$489
State and Municipal Fleet Electrification	$2.2	$0.1	$230
Transit and School Bus Electrification	$6.3	$1.6	$860
Mode Shift and VMT Reduction			
Active Transportation Infrastructure	$30.0	$-	$42,857
Micromobility Programs, Services, And Incentives	$-	$-	$-
Expanded Public Transit Services	$146.3	$6.7	$35,816
Travel Demand Management Programs	$0.5	$-	$135
Transportation-Efficient Land Use Patterns	$0.6	$-	$54
Freight and Congestion Management			
Traffic Flow Improvements	$0.1	$-	18
Safety Service Patrol	$0.5	$-	$1,000
Truck Idle Reduction	$0.2	$-	$114
Pricing			
Mileage-based User Fees	$0.4	$3.8	N/A
Peak-Period Pricing	$9.2	$89.5	N/A
Cap-and-Invest	$3.6	$34.0	N/A
Total, All Strategies	**$214.8**	**$135.7**	**$728**

Note: Costs are in 2025 dollars. Some costs are already covered with existing program funding while others are not – see the main report for details. "N/A" means cost-effectiveness is not defined because the measure yields net cost savings.

Implementation Considerations

Although RIDOT is taking the lead in modeling and evaluating the various transportation emission reduction strategies, RIDOT is not necessarily the lead agency to implement many of these strategies. The primary responsible state agencies include:

- RIDOT – Transportation infrastructure including active transportation and congestion management.
- RIPTA – Public transportation services and travel demand management.
- OER – Clean vehicle incentives and charging infrastructure.
- RIDEM – ACC II and ACT regulations; school bus electrification.
- Division of Capital Asset Management and Maintenance – State fleet electrification.
- State Police – Any enforcement-related strategies such as truck idle reduction.
- Division of Taxation – Any strategies involving taxes, fees, or tax credits.
- Division of Statewide Planning – Land use policy.

The state's municipalities also play an important role in many of these strategies, such as active transportation, micromobility programs, land use planning, and clean fleets. Since the State generally does not have direct authority to regulate municipal policies or programs, the State may need to provide incentives or technical assistance to leverage municipal action, and/or revise state program funding criteria (e.g., transportation project selection) to prioritize local projects that reduce emissions.

Some programs, especially pricing programs, will require a policy design study that could be the responsibility of multiple agencies, including OER, RIDEM, RIDOT, and/or others.

Existing funding is limited. Some of the strategies evaluated in this report are already funded, such as active transportation and traffic signal improvements listed in RIDOT's capital program, as well as federally-funded electric vehicle charging infrastructure. However, many of the strategies are not currently funded and will need authorization of additional funds by the legislature or re-prioritization of existing funds by the state's agencies. The pricing strategies evaluated in this report are one potential source of additional funding.

Potential Additional Actions

Based on this analysis and other considerations related to transportation emission reduction strategies, the following potential additional actions are recommended for consideration in addition to current policies and programs.

Zero-emission vehicles:

- Prioritize building out public charging infrastructure.
- Convert state fleets to ZEVs, guided by a fleet transition plan.
- Target consumer-side incentives at (1) equitable electrification and (2) medium and heavy-duty vehicles.
- Look at ways to help municipal service fleets with ZEV conversion with limited investment.

Mode shift, VMT, and freight and congestion relief:

- Consider further shifts in funding priorities as part of future transportation plan and program development.
- Initiate or continue discussions about potential future funding sources for transit expansion.
- Look at other potentially low-cost strategies such as incentives and technical support for local land use policy changes, and enforcing of anti-idling laws.

Pricing:

- Undertake a cross-agency **policy discussion** to consider which pricing strategies would be most feasible and beneficial for the State and its residents – providing the dual purpose of directly reducing emissions and also providing revenue that can be reinvested into other emissions reducing projects and programs.

1.0 OVERVIEW

1.1 Objectives

Rhode Island has been working to mitigate climate change and reduce greenhouse gas (GHG) emissions for over a decade. The 2014 Resilient Rhode Island Act set targets for reducing GHG emissions to 45 percent below 1990 levels by 2035 and to 80 percent below 1990 levels by 2050. In 2016 the State adopted a Greenhouse Gas Emissions Reduction Plan that includes strategies, programs, and actions to meet these targets.[1] By 2019, statewide net GHG emissions had decreased nearly 20 percent from the 1990 baseline, with emissions from highway vehicles declining by 18 percent[2] – marking progress, but still leaving significant additional progress to be made. The 2021 Act on Climate amended the 2014 law, making mandatory GHG emissions targets more enforceable, accelerating targets – requiring the state reduce emissions by 45 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2040, and added a goal to reach net-zero emissions by 2050.[3] The Act on Climate also directed the Executive Climate Change Coordinating Council (EC4) to develop a plan for the State to meet these targets. The Rhode Island Department of Environmental Management (RIDEM) and the Rhode Island Office of Energy Resources (OER) have led the development of that plan, referred to as the 2025 Climate Action Strategy.

In this report, the Rhode Island Department of Transportation (RIDOT) evaluates transportation GHG reduction strategies to support the state's 2025 Climate Action Strategy. This current analysis builds on RIDOT's Carbon Reduction Strategy developed in 2023 under the Carbon Reduction Program established by the federal Infrastructure Investment and Jobs Act of 2021, as well as the state's 2021 Clean Transportation and Mobility Innovation Report. This report summarizes the findings of the current transportation strategy evaluation and identifies strategies and actions to reduce emissions from Rhode Island's transportation sector. The Climate Action Strategy models how the State can meet all of its Act on Climate emissions reduction goals, with a focus on near-term strategies to meet the 2030 target. The report also considers both short term strategies for 2030 as well as longer term transportation strategies to keep the state on track to meet its 2050 net-zero requirements.

1.2 Methodology

This evaluation was conducted in close coordination with the RIDEM and OER team leading the Climate Action Strategy. The Strategy includes high level strategies across all sectors to reduce emissions, including

[1] *Executive Climate Change Coordinating Council (EC4), Greenhouse Gas Emissions Reduction Plan,* 2016.

[2] *EC4, Rhode Island 2022 Climate Act Update.*

[3] *As stated in the 2016 plan and 2022 update, the 1990 level was 12.48 million metric tons of CO_2 equivalent, setting the 2030 target at 6.86 MMT and the 2040 target at 2.50 MMT. According to the 2022 update, the Transportation sector was responsible for 4.97 MMT in 1990 and 4.29 MMT in 2019, representing about 40 percent of the State's emissions in 2019. Highway sources – the subject of this report – made up about 84 percent of transportation sector emissions in 2019.*

transportation sector strategies. This analysis considers transportation strategies in greater detail. It looks at the emission reduction benefits of actions proposed in the state's Long Range Transportation Plan (LRTP), Statewide Transportation Improvement Program (STIP), the Transit Master Plan Transit Forward RI-2040, the Statewide Bicycle Mobility Plan, the Congestion Management Plan, Statewide Freight & Goods Movement Plan, and other strategic planning documents. Strategies were identified in coordination with RIDOT, the Department of Statewide Planning (RIDSP), the Rhode Island Public Transportation Authority (RIPTA), RIDEM, and OER.

The following types of strategies are considered:

- **Zero-emission vehicles (ZEV**) – ZEVs are critical to the state's ability to meet its emission reduction goals. The effects of the State's clean cars and clean trucks regulations are included as part of the baseline emissions projection. This analysis also considers how various actions such as electric vehicle (EV) incentives, charging infrastructure, and clean fleets contribute to achieving those overall emission reductions. RIDOT can contribute to these actions although most are led by other state agencies.
- **Mode shift and vehicle-miles traveled (VMT) reduction** – RIDOT, RIPTA, and RIDSP can all take programmatic actions to help reduce VMT and shift travel to more efficient modes. This analysis considers the effects of expanded public transportation, active transportation, travel demand management (TDM), efficient land use patterns, and other policies and investments to reduce vehicle travel.
- **Freight and congestion management** – RIDOT can take actions to reduce emissions from cars and trucks stuck in traffic and to help move freight more efficiently. This analysis considers the benefits of traffic operations improvements and truck idle reduction.
- **Pricing** – Price signals are one of the most effective ways of reducing emissions from transportation. Pricing also raises revenue that can be reinvested in clean transportation options and/or returned directly to consumers through rebates and incentives. This analysis considers the potential benefits of mileage-based user fees as a replacement for the gas tax, peak-period pricing of congested roadways, and a cap-and-invest program that would cap GHG emissions from transportation and let the market set a price on emissions to achieve that cap. Pricing would likely require executive and/or legislative action to implement.

Most strategies were evaluated using the Transportation Evaluation and Carbon Reduction Tool (TEA-CART). TEA-CART, developed by Cambridge Systematics for the Georgetown Climate Center, offers planning-level analysis to estimate the performance of transportation capital program investments at reducing GHG emissions and VMT, as well as the cost-effectiveness of these investments. Other strategies were evaluated using custom methods making use of the best available local data and national research.

The consultant leading the Climate Action Strategy, E3, took high-level outputs from this analysis (e.g., changes in vehicle-travel and vehicle sales by vehicle technology type) and used those outputs to estimate the GHG emissions benefits of transportation strategies collectively using their Pathways model, an economy-wide tool that estimates future technology stocks, energy demand, and greenhouse gas emissions across all sectors. This analysis for RIDOT also estimates GHG emissions for individual transportation strategies. The emissions estimates are based on information from the E3 model including vehicle stock, service demand (annual miles per vehicle), and emissions. These data were used to derive emission rates (grams per mile) which were used in this analysis to estimate GHG emissions.

For some emissions reduction strategies, such as idle reduction and traffic flow improvements, the inputs required by Pathways (changes in VMT, sales, or stock) did not align with the outputs of this analysis. In those cases, an equivalent change in VMT was estimated based on the change in emissions estimated here and the emission rate for the corresponding vehicle type. This equivalent change in VMT was provided to E3 as part of the collective VMT changes from transportation strategies for use in their modeling. Due to these approximations and other differences in model operations, the cumulative results of this RIDOT analysis may not exactly match the overall results provided by Pathways.

Pathways includes the following vehicle types: Light Duty Vehicles; Light Medium Duty Trucks; Medium Duty Trucks; Heavy Duty Trucks (Long-haul); Heavy Duty Trucks (Short-haul); and Buses. Vehicle types in this analysis were aligned as needed with those categories. Each category has corresponding technology types (gasoline, diesel, electric, etc.)

The Climate Action Strategy's Pathways analysis is focused on short-term (2030) strategies and outcomes. The greatest attention in this RIDOT analysis is paid to 2030 outcomes. However, given the longer-range nature of transportation investment and project implementation, results for 2040 and 2050 are reported as well.

1.3 Outline

The next four sections discuss potential emission reduction strategies in detail. Section 2.0 addresses ZEVs, Section 3.0 addresses mode shift and VMT reduction, Section 4.0 addresses freight and congestion management, and Section 5.0 addresses pricing. Each strategy discussion considers:

- The key assumptions related to implementation of the strategy.
- The evaluation method.
- Results, including GHG impacts and other effects such as VMT reduction, delay reduction, and changes in clean vehicle sales.
- Implementation considerations, including costs, responsibilities, and timing of implementation.

Section 6.0 concludes by summarizing the collective impacts of the strategies. Appendix A documents assumptions for estimating electric vehicle energy cost savings.

2.0 ZERO-EMISSION VEHICLES

The following ZEV-supportive strategies were evaluated:

- Clean vehicle incentives – Expanded incentives for consumers and businesses to purchase ZEVs.
- EV charging infrastructure – Public charging stations, including fast-charge stations, to support electric cars and trucks.
- State and municipal fleet electrification.
- Transit and school bus electrification.

All of these strategies will collectively support Rhode Island's adopted Advanced Clean Cars (ACCII) and Advanced Clean Trucks (ACT) rules.[4] These rules require manufacturers to sell an increasing share of zero-emission vehicles in the future. By 2035 all new light-duty vehicles and between 40 and 75 percent of new trucks and buses sold in the state would need to be electric or another zero-emission technology such as hydrogen fuel cell. The future of these rules is not certain, as the federal government has rescinded the waiver that allows California and other states to implement their own automobile pollution reduction rules or a ZEV waiver. This issue is currently being litigated. The Climate Action Strategy analysis therefore includes two baseline scenarios – a "Current Policy without ZEV Waivers scenario" without the California waiver (ZEV requirement), and a "Current Policy + ZEV Waivers scenario" that includes the clean cars and trucks rules.

Given the ambitious nature of the state's clean cars and trucks rules, should the ZEV Waiver and clean cars and trucks rules be upheld, it is anticipated that any actions to support zero-emission vehicles will only help with achieving the levels required under those rules, rather than exceeding those levels. In the Current Policy without ZEV Waivers scenario, the incremental benefits of ZEV incentives are counted.

2.1 Clean Vehicle Incentives

Strategy Assumptions

Clean vehicle incentives may include point-of-sale or post-purchase rebates or tax credits for consumers and businesses purchasing zero-emission vehicles. These may apply for light duty cars as well as trucks and buses, and may be targeted to specific demographic such as lower income consumers, or for specific vehicle or fleet types. Rhode Island's DRIVE EV, DRIVE+, and DRIVE EV FLEET, administered by OER, already provide some ZEV purchase incentives. Between July 2022 and June 2025, the program awarded nearly $5 million in rebates to purchasers of 2,650 new and used EVs, for an average dollar value of $1,860 per vehicle. $1.08

[4] *https://dem.ri.gov/environmental-protection-bureau/air-resources/mobile-sources/advanced-clean-cars-ii-advanced-clean*

million is available in the current round of program funding.[5] In addition the federal Inflation Reduction Act of 2022 provides a tax credit of up to $7,500 per vehicle.[6] These credits were originally expected to be available through 2032, but the current administration has eliminated the credit for vehicles purchased after September 30, 2025. In 2023 Rhode Islanders claimed 970 federal tax credits at an average value of $6,533.[7]

This strategy assumes that the State of Rhode Island will make up the lost Federal tax credits starting in 2026, with a similar incentive such as a point-of-sale rebate.

Evaluation Method

The benefits of clean vehicle incentives are provided from E3's analysis. This analysis was based on a modeling study by the Salata Institute at Harvard University.[8] The Salata study estimated the nationwide effect on EV sales in 2030 of removing the federal tax credit to be a 6.0 percentage point decrease in the EV sales share of new vehicle sales. With a baseline annual sales of about 50,000 light-duty vehicles per year in Rhode Island,[9] this would be a difference of 3,000 new vehicles per year. It was assumed that the Current Policy without ZEV Waivers scenario forecast did not include the effects of the federal tax credit and the incremental effect of this strategy would be an additional 3,000 EV sales per year starting in 2026 and continuing over the analysis horizon. Emissions benefits of these new EV sales were estimated by E3 using vehicle activity and emission rates embedded in the Pathways model.

Results

Table 2-1 shows the estimated benefits of expanded incentives in the form of incremental new EVs sold and emissions reductions from those vehicles under the Current Policy without ZEV Waivers scenario. No incremental benefit is assumed under the Current Policy + ZEV Waivers scenario since these new vehicle sales would be required by regulation.

Table 2-1 Benefits of Clean Vehicle Incentives (Current Policy without ZEV Waivers)

Metric	2030	2040	2050
Additional new EV sales (light-duty)[a]	15,000	45,000	75,000
Change in annual GHG emissions (MT CO_2e)	-33,300	-84,500	-101,100
GHG change, % of Current Policy without ZEV Waivers scenario	-1.2%	-3.7%	-5.2%

5 *"DRIVE EV Project Statistics". https://drive.ri.gov/statistics/drive-ev-project-statistics, accessed July 2025.*

6 *https://www.irs.gov/credits-deductions/credits-for-new-clean-vehicles-purchased-in-2023-or-after*

7 *https://www.irs.gov/statistics/soi-tax-stats-clean-energy-tax-credit-statistics*

8 *Buckberg, E., and C. Cole (2025). Trump EV Policy Overhaul: What Will Happen to EV Adoption, Emissions, and the Fiscal Balance? Salata Institute for Climate and Sustainability at Harvard University.*

9 *Data provided by E3.*

[a] Vehicle sales are cumulative between 2026 and the year shown.

For comparison, approximately 817,000 light-duty vehicles were registered in Rhode Island at the beginning of 2025. Thus, the incremental new EV sales between 2026 and 2030 would represent 1.8 percent of the state's light-duty vehicle stock.

Costs and Implementation

The Salata Institute study estimated that the IRA credit resulted in an effective average credit per vehicle of $4,317 when factoring in vehicle price and customer income qualifications. If each incremental EV buyer (3,000 per year) took this level of credit or incentive, the cost to the State would be about $13 million per year, or about $65 million through 2030. However, the cost to the State would be higher if other consumers who would have bought an EV anyway claim the incentive and there is no cap placed on the number of incentives claimed – which would be likely to happen if EV sales rise as hoped.

To provide a similar incentive for all 32,000 EVs projected to be on the road in 2030 under the Current Policy without ZEV Waivers scenario would require $138 million; under the Current Policy + ZEV Waivers scenario it would require $587 million for 136,000 EVs. Since this level of funding is unlikely to be available, Rhode Island will need to rely on manufacturer-side policies and public infrastructure investment to achieve the target ZEV levels, combined with the continued manufacturer-side cost reductions and performance improvements that are making EVs increasingly attractive to many consumers.

Clean vehicle incentives are not something RIDOT would typically fund through its transportation capital investment program. Instead, such incentives would mainly be under the authority of OER to implement, with funding authorized by the state legislature. If the incentive were provided as a tax credit it would be realized in the form of foregone revenue, rather than additional spending, and would be administered by the Department of Taxation. Additional funding beyond that already authorized for existing programs could potentially come from some of the pricing mechanisms evaluated in Section 5.0 or from other state sources.

Additional clean vehicle incentives could be implemented as soon as funding (or a tax credit) is authorized by the State and the incentives are publicized. Benefits will be realized over time as consumers take advantage of them and make additional EV purchases.

Based on data from Edmunds.com and the International Council on Clean Transportation (ICCT),[10] E3's Pathways model projects that light-duty EVs are in the range of $11,000 to $15,000 more expensive than conventional vehicles in 2025 but will reach cost parity with conventional vehicles in approximately the 2033 to 2035 timeframe. Thus, there will be increasingly less need for vehicle incentives to make the cost of a new EV competitive for consumers. Consumers will also save money in fuel costs over the life of the vehicle – an estimated $3,800 over 12 years at current fuel prices (see Appendix A). However, support may still be needed for purchasing and installing charging equipment.

[10] *See: https://theicct.org/wp-content/uploads/2022/10/ev-cost-benefits-2035-oct22.pdf; https://www.edmunds.com/car-buying/average-price-electric-car-vs-gas-car.html*

2.2 EV Charging Infrastructure

Strategy Assumptions

This strategy involves constructing public-access EV charging infrastructure (EVCI). It may include a mix of Level 2 and direct current fast charge (DCFC) stations, with 50 to 150 kilowatt (kW) stations to support light-duty vehicle charging, and 350 kW or higher stations to support medium- and heavy-duty vehicle (MHDV) charging.

Rhode Island has initiated some programs to support EVCI. Electrify RI provided $1.4 million in funds for Level 2 and DCFC stations until the program was fully subscribed in 2021. Launched in August 2024, PowerUpRI offers rebates of up to $1,000 per charger for residential EV charger installations. The RI National Electric Vehicle Infrastructure (NEVI) Plan Roadmap set a plan for using $28.5 million in federal fiscal year (FFY) 2022 – 2026 federal funds for DCFC stations along long-distance travel corridors; a first round of funding was awarded in 2023 and as of July 2025 applications were open for a second round of $8 million in funding.[11] In August 2024 RIDOT also was awarded $15 million through the federal Charging and Fueling Infrastructure (CFI) Discretionary Grant Program to design, install, and maintain publicly available EV charging stations across the State, although this program is currently on hold and subject to uncertainty in continuity of federal funding. Federal funds require a 20 percent local match which is included in these funding amounts.

For this analysis, we assume that Rhode Island fully implements the investment proposed and funded through the NEVI Plan and CFI program, with all charging stations complete and operational by 2028. The NEVI funds would support about 280 150 kW DCFC charging ports, and the CFI funds if split 80/20 between Level 2 and 50 kW DCFC would support about 3,100 new charging ports, based on unit cost estimates in the TEA-CART tool.

For comparison, a national 2017 U.S. Department of Energy analysis projected a need for about 40 Level 2 and 1.7 DCFC ports per 1,000 EVs on the road in 2030. With these ratios, Rhode Island would need about 5,500 Level 2 ports and 230 DCFC ports by 2030 to support the EV populations projected in the ZEV Waiver scenario.[12] Thus, this level of funding would support Rhode Island well in meeting the aggressive ZEV targets of the ZEV Waiver scenario.

Evaluation Method

The benefits of EVCI were evaluated and provided from E3's analysis. This analysis was based on the Salata Institute modeling study. The Salata study estimated the nationwide effect on EV sales in 2030 of removing the federal NEVI program to be a 3.2 percentage point decrease in the EV sales share of new vehicle sales. With a baseline annual sales of about 50,000 light-duty vehicles per year in Rhode Island, this would be a difference of 1,600 new vehicles per year. It was assumed that the Current Policy without ZEV Waivers scenario forecast did not include the effects the NEVI program and the incremental effect of this strategy would be an additional

[11] "RI NEVI Plan Roadmap." https://energy.ri.gov/transportation/ri-nevi-program/ri-nevi-plan-roadmap, accessed July 2025.

[12] Note that some of these stations might be provided by private investment, such as the existing network of Tesla charging stations.

1,600 EV sales per year. Emissions benefits of these new EV sales were estimated by E3 using vehicle activity and emission rates embedded in the Pathways model.

Results

Table 2-2 shows the estimated benefits of expanded incentives in the form of incremental new EVs sold and emissions reductions from those vehicles.

Table 2-2 Benefits of EV Infrastructure

Metric	2030	2040	2050
Additional new EV sales (light-duty)[a]	8,000	24,000	40,000
Change in annual GHG emissions (MT CO_2e)	-17,800	-45,100	-54,000
GHG change, % of Current Policy without ZEV Waivers scenario	-0.6%	-2.0%	-2.8%

[a] Vehicle sales are cumulative between 2026 and the year shown.

While the public investment modeled here would constitute a large part of what is needed for Rhode Island to support target 2030 ZEV levels, investing in infrastructure alone is a necessary, *but not sufficient*, condition for Rhode Island to obtain those levels. Vehicle-side policies (such as ZEV sales requirements, incentives, and/or support for home charging) may also be needed to help incentivize widespread EV adoption, to help overcome current consumer concerns such as up-front costs, unfamiliarity with the technology, and uncertainty over range and performance.

Costs and Implementation

The cost of this strategy is equivalent to the assumed funding level ($43.5 million), with 80 percent of the costs covered by federal NEVI and CFI funds should they be disbursed by the federal government.

Implementation of EVCI beyond the modeled 2030 levels, or to achieve those levels should federal funding continue to be withheld, is contingent upon another source of funding. That could include already-programmed and/or potential future federal funds, a new state revenue source such as cap-and-invest or peak-period pricing (see Section 5.0), or redirection of another existing funding source.

Rhode Island OER has assumed responsibility for administering past and current EVCI investment programs and it is assumed that OER would maintain this responsibility. This has included disbursement of funds to implementing entities, such as municipalities or private service providers, through competitive grant programs.

EVCI takes time to plan and implement owing to requirements for selecting sites, awarding contracts, conducting site design and permitting, obtaining equipment, and construction. However, planning and some degree of implementation has already been completed for the NEVI and CFI funds, and all previously-funded activities under these programs could be completed before 2030.

2.3 State and Municipal Fleet Electrification

Strategy Assumptions

This strategy involves replacing internal combustion engine vehicles in state and municipal fleets with electric or plug in hybrid-electric vehicles (PHEV). It is assumed that the State would develop a fleet transition plan first targeting older and/or higher-mileage light-duty vehicles for replacement, with eventual replacement of all vehicles unless there is an operational constraint to doing so. MHDVs would be converted over time as models become available meeting operational requirements. Vehicle replacement would be accompanied by investment in charging infrastructure, mainly Level 2 for overnight charging but also DCFC stations to support quick-turnaround charging needs.

Executive Order 15-17 (2015)[13] established a Lead by Example Program to reduce emissions from state government assets. Executive Order 23-06 (2023)[14] provided updated targets including acquiring vehicles such that the light-duty state fleet consists of 25 percent zero-emission vehicles by 2030.

Data from the Rhode Island Department of Administration, Division of Capital Asset Management and Maintenance (DCAMM) show 857 light-duty vehicles registered to the state, of which 143 have already been replaced with ZEVs or PHEVs. The state owns approximately 50 medium- and heavy-duty vehicles, of which the vast majority are Class 3 and 4 vans and trucks (e.g., Ford E150, F250, and E350 series, Chevrolet Silverado 2500 and Express 500 Passenger Van) which generally have EV alternatives on the market today.

The number of municipal vehicles was not known at the time of the analysis. However, data from input files for the MOVES emissions model, obtained from RIDEM, show approximately 245 refuse trucks registered in Rhode Island. Due to their high fuel consumption rate, low-speed duty cycles with frequent stops and starts, and return-to-base operating patterns, refuse trucks are a prime candidate for electrification and are being tested in service in other New England states, such as Maine.[15] These trucks could be electrified over time through partnerships between municipalities and refuse service providers.

For this analysis it is assumed that all state LDVs and MDVs are converted between 2026 and 2040, with 25 percent of those being converted by 2030 consistent with the 2023 Executive Order. Refuse trucks are assumed to be converted over the 2028 – 2040 timeframe.

Evaluation Method

LDV and MDV conversion was modeled based on average emission rates (g/mi) and miles per vehicle for internal combustion engine vehicles from E3's Pathways model. Refuse trucks were modeled based on

[13] *Executive Order 15-17. "State Agencies to Lead by Example in Energy Efficiency and Clean Energy." December 8, 2015.*

[14] *Executive Order 23-06. "State Agencies To Lead By Example And Act On Climate." May 9, 2023*

[15] *Maine Clean Transportation Roadmap for Medium- and Heavy-Duty Vehicles (2024). Governor's Office of Policy Innovation and the Future, Maine Governor's Energy office, and Maine Department of Transportation.*

average fuel consumption (1.7 miles per gallon diesel equivalent) and annual mileage (23,400) from the Argonne National Laboratory AFLEET tool version 2020, at 10.15 kg CO_2 per gallon of diesel.

Results

Table 2-3 shows the estimated benefits of fleet replacement with ZEVs.

Table 2-3 Benefits of State and Municipal Fleet Replacement

Metric	2030	2040	2050
Number of vehicles replaced (light-duty)[a]	70	709	709
Number of vehicles replaced (medium-duty)[b]	73	291	291
Number of vehicles replaced (heavy-duty)	--	--	--
Change in annual GHG emissions (MT CO_2e)	-8,800	-36,300	-36,300
GHG change, % of Current Policy without ZEV Waivers scenario	-0.3%	-1.6%	-1.9%

[a] Vehicle replacements are cumulative between 2026 and the year shown.

[b] For modeling in Pathways, refuse trucks were converted to medium duty truck-equivalents in terms of emissions impact. In 2030, one refuse truck is equivalent to 25 average MDTs considering the ratio of miles per vehicle (23,400 vs. 8,400) times emissions rate (5,971 vs. 662 g/mi). The emissions benefits of fleet replacement may differ between E3's analysis and this analysis since the Pathways model does not evaluate specific types of MDVs that may have different activity and emissions profiles than an average MDV.

Costs and Implementation

The costs to implement this strategy will depend primarily on three factors:

- The incremental capital cost of an EV vs. an internal combustion engine vehicle for each vehicle class/use.
- The degree to which vehicles are replaced before the end of their useful life (accelerated turnover).
- Operational cost savings over time due to reduce fuel and maintenance costs.

Additional up-front funding will be required for initially more-expensive vehicles. ICCT (2022) projects that light-duty EVs are in the range of $5,000 to $7,000 more expensive than conventional vehicles in 2025 but will reach cost parity with conventional vehicles in approximately the 2030 timeframe. The state will also need to invest in charging infrastructure, estimated at $5,000 for a Level 2 charger serving two light-duty vehicles. This would make the total capital cost of converting the remainder of the state's light-duty fleet about $2 million by 2030 and an additional $1 million by 2035.

Over time, the up-front costs could increasingly be recovered through transfers from operating budgets as fuel and maintenance costs are reduced. Fuel cost savings for state fleets are estimated to be $1.6 million through 2040 at current fuel prices and statewide average values of miles per vehicle (see Appendix A).

Refuse truck costs are estimated at approximately $10 million between 2026 and 2030 for vehicles and chargers, with another $29 million through 2040. This assumes an incremental capital cost for a medium-duty truck ($90,000) and a dedicated 50kW charger at $67,800 for each truck. It is likely that vehicle costs will be reduced over time and also that waste disposal companies could fund much or all of the cost based on expected vehicle operating cost savings. Fuel cost savings for refuse truck operators are expected to reach $35 million cumulatively by 2040 at current fuel prices.

A full cash-flow assessment should be conducted as part of the fleet transition plan.

The Rhode Island DCAMM would most likely be responsible for the state fleet implementation plan and management. Individual municipalities would be responsible for their own plans, although the State might provide financial or technical assistance especially to smaller municipalities with limited capacity. Financial assistance could be in the form of a planning grant, capital funds, and/or loans.

2.4 Transit and School Bus Electrification

Strategy Assumptions

This strategy involves replacing RIPTA transit buses and municipal school buses with electric buses. It is assumed that RIPTA would transition its service fleet over time, with eventual replacement of all vehicles unless there is an operational constraint to doing so. RIPTA would also invest in charging infrastructure to support charging of those buses. In addition, the State would provide funding and/or technical assistance to support school districts and school bus operators in transitioning their fleets, including purchase of electric school buses and charging equipment. Bus electrification will also require updates to maintenance facilities and training of maintenance staff.

Based on RIPTA's 2023 fleet numbers which are reported to the National Transit Database (NTD), there are 323 vehicles in RIPTA's service fleet including 223 buses and 100 flex and paratransit vehicles. RIPTA's *Action Plan for Electrification and Service Growth* evaluates various scenarios for transitioning to low- and zero-emission buses, including scenarios with increased service consistent with the Transit Master Plan, and including scenarios with diesel-electric hybrid buses or hydrogen fuel cell buses as well as battery electric buses, with the goal of transitioning all vehicles by 2042. Scenario 3 (100 percent battery-electric buses with on-route charging) anticipates a need for a total of 418 buses to meet 2042 service levels anticipated in the Transit Master Plan. (A baseline scenario of all diesel or hybrid buses would require 388 vehicles, while a scenario with depot charging would require as many as 688 vehicles.) For this analysis, increased transit service consistent with the Transit Master Plan is also assumed in the "expanded public transit services" strategy, using diesel buses.[16] For consistency, for this bus electrification strategy, we therefore assume the

[16] *The draft analysis provided to E3 for incorporation in the final Pathways modeling for the Climate Action Strategy did not assume an increase in the number of service vehicles. As a result, the transit emissions benefits shown in this report will be larger than the transit emissions benefits included in the Climate Action Strategy.*

fleet size is increased over time at the same time as it is converted to all-electric buses, with the entire conversion completed by 2042.

Based on inputs developed by RIDEM for the MOVES emission factor model, there are approximately 1,439 school buses in the state. It is assumed for this analysis that school buses are transitioned over time, starting in 2028, with a full transition to EVs being complete by 2040.

The timeframe for both transit and school bus replacement allows for buses to be replaced on their normal replacement cycle, rather than accelerating fleet turnover. This is a simplified analysis assuming uniform fleet replacement per year.

Evaluation Method

Transit and school bus replacement was modeled directly in TEA-CART. TEA-CART includes state-specific assumptions about annual VMT, fuel consumption, and emissions per diesel transit bus (from NTD reporting for Rhode Island for year 2019) and national average assumptions of annual VMT and emissions per school bus.

Results

Table 2-4 shows the estimated benefits of transit and school bus replacement with ZEVs.

Table 2-4 Benefits of Transit and School Bus Replacement

Metric	2030	2040	2050
Number of vehicles replaced (transit)[a]	46	277	323
Number of vehicles replaced (school)[a]	240	1,439	1,439
Change in annual GHG emissions (transit) (MT CO_2e)	-5,100	-30,700	-35,800
Change in annual GHG emissions (school) (MT CO_2e)	-2,100	-7.900	-7.800
GHG change, % of Current Policy without ZEV Waivers scenario	-0.3%	-1.7%	-2.2%

[a] Vehicle replacements are cumulative between 2026 and the year shown.

Costs and Implementation

The costs to implement this strategy will depend primarily on four factors:

- The incremental capital cost of a battery-electric vs. gasoline or diesel bus.
- The cost of charging equipment and any electrical infrastructure upgrades needed to support that equipment.
- The degree to which vehicles are replaced before the end of their useful life (accelerated turnover) – in this case, we assume no turnover acceleration.

- Operational cost savings over time due to reduce fuel and maintenance costs.

Additional up-front funding will be required for initially more-expensive vehicles. TEA-CART estimates an incremental capital cost of about $454,000 for an electric vs. diesel bus and $43,000 for an electric vs. gasoline demand-response bus. Charging equipment and installation is estimated at about $53,000 per vehicle for a transit bus and $34,000 per vehicle for demand-response vehicles using fast chargers, and $5,000 per vehicle for a school bus using a Level 2 charger. Thus, the total capital cost of 2030 deployment would be about $66 million, and an additional $367 million would be required for 2031 – 2040 full deployment. A detailed accounting of the transit and school bus cost estimates is shown in Table 2-5. This does not include any potential costs for grid infrastructure upgrades to provide higher power levels to RIPTA or school bus fleet facilities, which can be highly variable.

Table 2-5 Transit and School Bus Electrification Costs

Vehicle Type	Service Veh.	Veh/yr	By 2030	2031-2040	2041-2050	Incremental Vehicle Cost	Charger Cost	Veh/ Chrg	Cost/Veh	Cost by 2030 ($M)	Cost 2031-2040 ($M)
Motor Bus	418	30	60	299	60	$453,903	$106,515	2	$507,161	$30.3	$151.4
Flex/Paratransit	100	7	14	71	14	$43,424	$67,839	2	$77,343	$1.1	$5.5
Total RIPTA	**518**	**37**	**74**	**370**	**74**					**$31.4**	**$156.9**
School Bus	1,439	103	206	1,233		$165,060	$4,936	1	$169,996	$34.9	$209.7
Total, Buses	1,957	140	280	1,603	74					**$66.3**	**$366.6**

Over time, RIPTA and school bus operators would increasingly see operating cost savings since electricity costs less than gasoline or diesel. The incremental capital costs could therefore be increasingly covered through transfers from operating budgets as operating costs are reduced. Over its 12-year lifetime, a 40-foot electric bus would be expected to save about $159,000 in fuel costs compared to a comparable diesel bus at current energy prices. Conversion of RIPTA's fleet would save about $29 million cumulatively in fuel costs by 2040 at current energy prices (see Appendix A).

School buses are not under the direct purview of the State. However, the State – most likely RIDEM – could provide financial incentives (grants or loans) and/or technical support to municipalities to support electrification of their school bus fleets. RIDEM has already funded clean vehicle conversions through the federal Diesel Emissions Reduction Act (DERA) program.

3.0 MODE SHIFT AND VMT REDUCTION

The following mode shift and VMT reduction strategies were evaluated:

- Active transportation infrastructure.
- Micromobility programs, services, and incentives.
- Expanded public transit services.
- Travel demand management programs.
- Transportation-efficient land use patterns.

3.1 Active Transportation Infrastructure

Strategy Assumptions

This strategy includes investment in sidewalks, bike lanes, shared-use paths, and Complete Streets treatments. This analysis assumes:

- By 2030, implementation of projects programmed in the STIP.
- By 2040, implementation of projects proposed in the *Statewide Bicycle Mobility Plan*.
- After 2040, continued implementation of projects at the same annual rate of deployment.

Evaluation Method

This strategy was evaluated using TEA-CART. TEA-CART accepts inputs of miles of facility by facility type and area type, where area types correspond to population density. It is assumed that active transportation infrastructure is more effective in areas of higher population density, where trip origins and destinations are closer together and driving is less convenient. The inputs provided to TEA-CART are shown in Table 3-1.

Table 3-1 Miles of New Bicycle and Pedestrian Facilities

Facility Type	Area Type	2026 - 2030	2031 - 2040
New shared-use path	Core	0.0	1.3
New shared-use path	Urban	0.0	4.7
New shared-use path	Suburban	0.1	72.7
New shared-use path	Rural	11.7	34.4
New bicycle lane	Core	0.0	39.2

Facility Type	Area Type	2026 - 2030	2031 - 2040
New bicycle lane	Urban	0.0	55.0
New bicycle lane	Suburban	3.5	206.2
New bicycle lane	Rural	4.6	169.6
New separated bike lane	Core	0.0	3.8
New separated bike lane	Urban	19.7	12.6
New separated bike lane	Suburban	44.6	18.7
New separated bike lane	Rural	0.0	0.0
New/improved sidewalk	Core	0.8	--
New/improved sidewalk	Urban	6.3	--
New/improved sidewalk	Suburban	78.1	--
New/improved sidewalk	Rural	4.0	--

Results

Table 3-2 shows the estimated VMT reduction and GHG emissions benefits of expanded active transportation infrastructure.

Table 3-2 Benefits of Active Transportation Projects

Metric	2030	2040	2050
Change in annual VMT (millions)	-2.4	-14.7	-14.7
Change in annual GHG emissions (MT CO_2e), Current Policy without ZEV Waivers scenario	-730	-3,400	-5,100
Change in annual GHG emissions (MT CO_2e), Current Policy + ZEV Waivers scenario	-600	-1,400	-500
GHG change, % of Current Policy without ZEV Waivers scenario	-0.0%	-0.1%	-0.3%

Costs and Implementation

The total estimated cost of the proposed improvements is about $355 million over 10 years for investments programmed in the STIP and an additional $300 million for full implementation of the Bicycle Mobility Plan through 2040, for a total of about $655 million.

Implementation of expanded active transportation is the responsibility of both RIDOT and the state's municipalities. RIDOT is responsible for improvements on the state's road system and for state-funded shared use paths. Municipalities have an important role to play by making local streets safer and more supportive of pedestrian and bicycle travel.

3.2 Micromobility Programs, Services, And Incentives

Strategy Assumptions

Micromobility programs can include municipal bikeshare and scooter share programs, as well as incentives for purchasing electric bicycles or other forms of lightweight electric mobility. The City of Providence Shared Micromobility Program includes e-scooter and bike rentals from three private companies within reach of most of the city's population. Pawtucket has also implemented a Micromobility Scooter Pilot Program. The OER administers the Erika Niedowski Memorial Electric Bicycle Rebate Program that offers rebates for the purchase of an electric bicycle.

For this analysis, we assume that micromobility programs are expanded to other communities in Rhode Island with sufficient population density to support them.

Evaluation Method

Analysis of geospatial data on bike share bike hub locations in Providence estimated that approximately 58 percent of the city's population, or 98,000 people, live within ¼ mile of a bike hub. (Bikes and scooters may also be parked at other locations such as bike racks or street signs.) For 2024 Populus reported a total of 404,000 trips taken and 21,200 - 28,300 kg CO_2e saved by the program, which equates to about 0.25 kg per person in the service area. Populus also reported a reduction of 514,000 VMT in 2024.[17]

Bike and scooter share programs typically serve higher density neighborhoods where more residents are in walking distance of available bikes and more destinations are within biking distance. Existing bike share program data in Rhode Island were evaluated to identify the population densities of neighborhoods served. This evaluation found that the 20th percentile density (measured at a Census Tract level) was 7,177 persons per square mile. Using this threshold, it was estimated from Census data that approximately 74,000 people live in tracts that exceed this density but are not already served by micromobility. It was assumed that micromobility was expanded to reach this population, at the same average annual VMT reduction and GHG savings per capita as for Providence's existing programs.

Results

Table 3-3 shows the estimated VMT reduction and GHG emissions benefits of expanded micromobility programs.

[17] *https://app.populus.ai/providence/public/routes*

Table 3-3 Benefits of Micromobility Programs

Metric	2030	2040	2050
Change in annual VMT (millions)	-0.4	-0.4	-0.4
Change in annual GHG emissions (MT CO_2e)	-16	-13	-11
GHG change, % of Current Policy without ZEV Waivers scenario	0.0%	0.0%	0.0%

Costs and Implementation

Micromobility programs are typically implemented by private entities in partnership with municipalities. If the service provider deems the service area to be profitable, they may only require assistance in the form of permitting and siting stations. If service would not be profitable, it may need to be subsidized by the municipality or the State. Some municipalities have subsidized the capital costs of bike stations while having the service provider cover operating costs based on user revenue. Permit fees may also provide revenue to the host municipality. A more detailed analysis would need to be conducted of the potential costs and revenues of micromobility programs in Rhode Island's communities not yet served.

3.3 Expanded Public Transit Services

Strategy Assumptions

This strategy involves the modeling of the state's Transit Master Plan, *Transit Forward RI*, which involves several key projects including:

- Statewide service enhancements (including Frequent Transit Network).
- Bus rapid transit/light rail Improvements on two corridors: Providence-CCRI Warwick via TF Green, Central Falls-CCRI Warwick.
- Upgrading 7 RIPTA routes to Rapid Bus service: 1 Hope, 17 Pocasset, 20 Elmwood, 27 Manton, 31 Cranston, 56 Chalkstone, 78 Beverage Hill.
- T.F. Green/Warwick Platform Expansion.
- MBTA Commuter Rail all day frequent service.
- Flex On Demand.

Service increases were assumed to be implemented over time between 2026 and 2040.

Evaluation Method

This strategy was evaluated by first sourcing ridership estimates developed by RIPTA associated with the various transit strategies. These ridership estimates were then incorporated into TEA-CART, where assumptions on trip length and prior mode share were used to estimate VMT reductions for automobiles, and average revenue-miles per bus were used to estimate VMT increases for diesel buses.[18] Emissions were estimated by multiplying VMT changes from TEA-CART by emission rates derived from E3's Pathways data. Benefits for 2030 were based on linear scaling between 0 and 2040 benefits.

It was assumed that expanded bus service would be operated by diesel buses. Introducing electric buses to provide the expanded services would further reduce mobile-source GHG emissions from this strategy.

Results

Table 3-4 shows the estimated VMT reduction and GHG emissions benefits of expanded public transportation services. Results are shown both without electrification, assuming the additional service is provided by diesel buses, and with electrification, assuming that RIPTA's fleet is gradually transitioned to zero-emission buses between 2028 and 2042. The summary results provided in Section 6.0 show the "without electrification" numbers. The benefits of electrification are accounted for separately under the "Transit and School Bus Electrification" strategy which includes expanded service levels consistent with RIPTA's Transit Master Plan.

Table 3-4 Benefits of Expanded Public Transportation

Metric	2030	2040	2050
Change in annual automobile VMT (millions)	-16.2	-48.8	-48.8
Change in annual public transit VMT (millions)	0.7	2.0	2.0
Change in annual GHG emissions (MT CO_2e), Current Policy without ZEV Waivers scenario (without RIPTA electrification)	-3,900	-8,700	-6,700
Change in annual GHG emissions (MT CO_2e), Current Policy + ZEV Waivers scenario (without RIPTA electrification)	-3,400	-2,600	+1,300
Change in annual GHG emissions (MT CO_2e), Current Policy without ZEV Waivers scenario (with RIPTA electrification)	-4,100	-11,100	-9,300
Change in annual GHG emissions (MT CO_2e), Current Policy + ZEV Waivers scenario (with RIPTA electrification)	-3,600	-4,500	-900
GHG change, % of Current Policy without ZEV Waivers scenario (without RIPTA electrification)	-0.1%	-0.4%	-0.3%

[18] *Average trip length: 4.4 miles based on 2019 National Transit Database reporting of passenger-miles and passenger-trips for Rhode Island. Prior drive mode share: 47 percent, based on multiple sources.*

Costs and Implementation

Expanded public transportation services would be implemented by RIPTA. RIPTA was facing an operating deficit in FY 2026 leading the agency to propose potential service cuts.[19] Funding beyond that available from existing sources would need to be authorized by the legislature or diverted from other programs. The cost of the full set of additional services proposed in Transit Forward RI is estimated to be $1.76 billion in capital costs (year 2025 dollars) and $145 million in annual operating costs. A fraction of that, estimated to be about $6.7 million annually by 2030 and $20 million annually by 2040, is estimated to be recouped through increased farebox revenue.[20]

3.4 Travel Demand Management Programs

Strategy Assumptions

Travel demand management, or TDM, refers to a range of strategies to encourage people to travel by modes other than driving or to reduce their trips taken. TDM is often focused on work trips (commuting) but some TDM programs have also targeted school trips or neighborhood-based travel. Examples of TDM include: carpool and vanpool services; guaranteed ride home programs; apps that provide information on multi-modal trip options along with incentives for replacing driving trips with other modes; pre-tax transit benefits; employer options to work from home; parking "cash-out" where employees can obtain a cash benefit in lieu of a parking space; and neighborhood-based car-sharing to reduce the need to own a car.

Rhode Island's primary TDM program is Drive Less RI. This app lets people record bus, bike, train, carpool, vanpool and walking trips; earn points redeemable for discounts from retailers or monthly gift card drawings; and connect with active carpools and bike commuters throughout the state. In addition, RIPTA partners with Commute with Enterprise to provide vanpool services. ZipCar is a private company offering carsharing, mainly within the Downtown Providence and College Hill neighborhoods.

Options for expanded TDM in Rhode Island could include:

- "Mobility as a Service" that provides multimodal trip planning and payment within a single app. As of summer 2025 RIDOT has approved a $250,000 research project to develop the framework for such an app. The RFP for the research project is currently under development.
- Provision of free or reduced-cost transit passes to support employee commuting. In 2024 RIPTA was awarded $220,000 in funding from EC4, including $145,000 to reduce the cost of transit passes to employers, building owners, and social service providers, and the remainder to support public outreach and engagement on carbon-free options.

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[19] *https://www.ripta.com/ripta-to-hold-public-hearings-on-proposed-statewide-service-cuts-due-to-budget-deficit/*

[20] *Estimated based on Transit Master Plan ridership estimates at fares of $2 for bus travel and $12.75 for commuter rail.*

- Outreach to employers to encourage employers to offer travel benefits, such as subsidized or tax-free transit benefits or parking cash-out, to their employees. This analysis assumes that Rhode Island establishes a program with two full-time employer outreach staff at an annual cost of $250,000. This would also help facilitate administration of employer transit passes as proposed by RIPTA.

Evaluation Method

This strategy was evaluated using the TEA-CART tool for employer-based TDM. TEA-CART estimates TDM impacts based on the number of employees covered through employer outreach programs, or the total annual dollar value expended on employer outreach. Impacts are based on evaluation results available from other TDM programs. A funding level of $470,000 per year was input for employer-based TDM programs.

A review of the literature for Mobility as a Service did not find any evaluation results that were felt to be transferable to Rhode Island. This strategy has primarily been implemented in European cities, sometimes with a more expansive version of the program in which users pay a set monthly fee and then can make use of any of the services included (transit, bikeshare, carshare, ride-hailing, etc.)

Results

Table 3-5 shows the estimated VMT reduction and GHG emissions benefits of expanded TDM programs.

Table 3-5 Benefits of Expanded TDM Programs

Metric	2030	2040	2050
Change in annual VMT (millions)	-2.4	-2.4	-2.4
Change in annual GHG emissions (MT CO_2e), Current Policy without ZEV Waivers scenario	-3,700	-2,900	-2,300
Change in annual GHG emissions (MT CO_2e), Current Policy + ZEV Waivers scenario	-3,300	-1,200	-200
GHG change, % of Current Policy without ZEV Waivers scenario	-0.1%	-0.1%	-0.1%

Costs and Implementation

RIDOT, RIPTA, or RIDSP could all be in a position to take the lead on implementation of additional TDM strategies. RIPTA would most likely take the lead role in implementation of employer benefits including transit passes or an integrated trip planning app.

The cost of an integrated trip planning and payment app is estimated at $250,000 up-front and $50,000 annually in maintenance and administration. Providing transit passes at the funded level would result in up to $145,000 in foregone fare or pass sales, but some of the passes would go to travelers who would not have purchased a fare or pass anyway meaning the actual net cost to the state (foregone revenue) would be lower. The cost for employer outreach is assumed at $250,000 annually as noted above.

3.5 Transportation-Efficient Land Use Patterns

Strategy Assumptions

This strategy involves planning actions, technical assistance, and/or incentives to encourage development in more transportation-efficient patterns, including transit-oriented development (TOD) and compact, walkable communities. Examples of specific actions may include rezoning land near transit stations, along high-frequency transit corridors, or in village and town centers to allow higher densities and a greater mix of uses. This type of development can reduce trip lengths and increase use of non-driving modes including transit, walking, and bicycling.

The 2006 Rhode Island State Guide Plan, developed by the Division of Statewide Planning, provides policy direction for the state's future development. One element of this plan, Land Use 2025: Rhode Island's State Land Use Policies and Plan, sets forth a statewide land use policy. The plan calls for containing sprawl, and concentrating housing, commerce, and social interaction in dense centers of varying scales. It includes the Future Land Use 2025 Map, intended as a guide to municipalities and state agencies in planning, development, and conservation of areas within their jurisdictions. The State Guide Plan is currently being updated. To support implementation of the plan, RIDOT's Carbon Reduction Strategy calls for transportation project prioritization and planning to consider land use. Rhode Island currently has five rail rapid transit stations (Amtrak and MBTA) located in Pawtucket/Central Falls, Providence (downtown and TF Green Airport), Wickford Junction, and Westerly; some of these municipalities have implemented varying degrees of zoning changes to support development in the station areas. Some transit-oriented development is already planned or under construction around a new train station and transit hub in Pawtucket and Central Falls.[21]

RIPTA's existing and planned bus rapid transit and other high-frequency transit were not used to define transportation-efficient development areas in this benefit estimation. Potential carbon reduction benefits due to transit-oriented development can be found in *Transit Forward RI 2040*.

Rhode Island is forecast to add 22,000 new residents (2 percent) between 2025 and 2030, and an additional 43,000 new residents by 2040.[22] For this analysis, it was assumed that an additional 10 percent of 2025-2030 growth, equivalent to 4,400 new residents or 1,800 households, and an additional 20 percent of 2030-2040 growth (3,600 households), occurs in areas already zoned or re-zoned for "smart growth" – defined as walkable, mixed-use areas with a density of at least 15 units per acre – as rezoning and infrastructure investment priorities make it more feasible and attractive to build and live in such areas.

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[21] https://www.valleybreeze.com/news/three-housing-projects-next-to-pawtucket-train-station-get-approvals/article_77ab2db0-2e2b-48d4-9656-ca3063b5a196.html; https://www.clf.org/newsroom/conservation-law-foundation-and-mhic-approve-investment-in-transformative-pawtucket-development/; https://nerej.com/new-commuter-rail-station-and-tidewater-stadium-driving-revitalization-by-donald-grebien

[22] University of Virginia Weldon Cooper Center for Public Service, National and 50-State Population Projections, https://www.coopercenter.org/national-population-projections

Evaluation Method

This strategy was evaluated using TEA-CART. The input to TEA-CART is the acreage of land rezoned for higher-density, mixed-use development. TEA-CART includes assumptions (based on national literature) about VMT per capita for residents of mixed-use urban areas vs. areas with more typically suburban densities. To support 1,800 new households in smart growth areas with a density of 18 units per acre by 2030 (the TOD average in TEA-CART), 100 acres would be rezoned. Another 200 acres would be rezoned by 2040 to support 3,600 new units.

Results

Table 3-6 shows the estimated VMT reduction and GHG emissions benefits of transportation-efficient land use patterns.

Table 3-6 Benefits of Transportation-Efficient Land Use Patterns

Metric	2030	2040	2050
Change in annual VMT (millions)	-36.5	-109.4	-109.4
Change in annual GHG emissions (MT CO_2e), Current Policy without ZEV Waivers scenario	-11,100	-25,600	-34,800
Change in annual GHG emissions (MT CO_2e), Current Policy + ZEV Waivers scenario	-9,900	-10,700	-3,200
GHG change, % of Current Policy without ZEV Waivers scenario	-0.4%	-1.1%	-1.8%

Costs and Implementation

Although the State has set a broad policy framework for land use, and can provide incentives for policy changes by targeted or prioritizing infrastructure investments, land use policy and zoning are mainly the responsibility of local governments. To the extent that the State can provide support for local land use policy as well as statewide policy guidance, this support is provided by RIDSP.

Land use policy and zoning changes cost very little to implement, and can even save money over time as less infrastructure is needed to serve more compact development. However, the state may need to provide incentives to municipalities or targeted infrastructure investment (such as water and sewer expansion or transportation improvements) to make these development areas more attractive or incentivize rezoning. For example, Massachusetts' Chapter 40R program has provided incentives to local governments of approximately $3,000 per unit in rezoned smart growth districts. At this level of incentive for the rezoned acreage, the cost to Rhode Island would be about $3 million in the 2026-2030 timeframe and $11 million between 2031 and 2040.

4.0 FREIGHT AND CONGESTION MANAGEMENT

The following freight and congestion management strategies were evaluated:

- Traffic operations improvements including signal timing and roundabouts.
- Safety Service Patrol.
- Truck idle reduction.

4.1 Traffic Operations Improvements

Strategy Assumptions

A variety of traffic operations improvements can be implemented to reduce delay and associated fuel use and emissions. In this analysis, intersection projects including signal timing improvements and roundabout conversion were modeled based on projects listed in the STIP. Approximately 17 signal improvement projects were identified in the STIP. While these may be implemented for both safety and operational purposes, they are likely to have emission reduction benefits.

Evaluation Method

TEA-CART evaluates signal timing and roundabout projects based on average traffic volumes for Rhode Island arterials and delay reductions per intersection based on studies from the literature. Induced travel effects are also considered, as improved travel conditions may increase VMT, offsetting the emissions benefits to some degree.

Results

The estimated GHG emissions benefits are shown in Table 4-1. VMT would increase by 1.2 million annually, but the effects would be more than offset by reduced emissions as a result of reduced congestion and more efficient traffic flow.

Table 4-1 Benefits of Traffic Operations Improvements

Metric	2030	2040	2050
Change in VMT (millions)	1.2	1.2	1.2
Change in annual GHG emissions (MT CO_2e), Current Policy without ZEV Waivers scenario	-2,900	-2,900	-2,800
Change in annual GHG emissions (MT CO_2e), Current Policy + ZEV Waivers scenario	-2,700	-1,500	-700
GHG change, % of Current Policy without ZEV Waivers scenario	-0.0%	-0.0%	-0.0 %

Costs and Implementation

The referenced signal timing projects would be implemented by RIDOT as programmed in the STIP. No additional funding would be required as these projects are already programmed and funded. The STIP identifies seven projects as "congested corridor upgrades" and a total line-item cost of $110,000 for these upgrades for an average of about $16,000 per location. The remaining 10 projects are identified as "upgrade signal system" and are components of larger projects. Extrapolating the $16,000 to these projects would bring the total cost to about $267,000 just for the signal improvements.

4.2 Safety Service Patrol

Strategy Assumptions

A Safety Service Patrol is a program in which roving vehicles can quickly reach the scene of an incident, report and/or confirm highway incidents, advise the Traffic Management Center and/or Rhode Island State Police of needed response, assist with traffic control/protection, aid motorists in need, and push or tow vehicles that are blocking the road. Safety Service Patrols can reduce emissions by reducing congestion and delay associated with incidents. This analysis assumes a deployment along 35 miles of I-95 and I-195 in the metro areas of Rhode Island, as recommended in a study by Jacobs for RIDOT.[23] Implementation has already been initiated.

Evaluation Method

The Jacobs evaluation for RIDOT estimated benefits using the FHWA Traffic Incident Management Program Benefit-Cost Estimation Tool, which is based on results observed from various other states' programs. The evaluation year for which results are reported is not specified.

[23] *"Safety Service Patrol (SSP) Recommendation for RIDOT." Prepared by Jacobs for RIDOT, 2022.*

Results

The evaluation estimated a saving of 239,000 hours in delay and 58,000 gallons of fuel per year for the recommended two-corridor, 35-mile deployment, resulting in a reduction of 582 metric tons of CO_2. For this analysis, the reported result was applied to 2026 and adjusted to 2030 and future years based on the ratio of future year to 2026 total on-road emissions. Results are shown in Table 4-2.

Table 4-2 Benefits of Safety Service Patrol

Metric	2030	2040	2050
Change in annual delay (hours)	-239,000	-265,000	-323,000
Change in annual GHG emissions (MT CO_2e), Current Policy without ZEV Waivers scenario	-540	-430	-370
Change in annual GHG emissions (MT CO_2e), Current Policy + ZEV Waivers scenario	-500	-230	-100
GHG change, % of Current Policy without ZEV Waivers scenario	0.0%	0.0%	0.0%

Costs and Implementation

The RIDOT Traffic Management Center, in coordination with the Rhode Island State Police, are responsible for implementing the Safety Service Patrol. The Jacobs evaluation estimated initial costs of about $505,000 per year.

4.3 Truck Idle Reduction

Strategy Assumptions

This strategy includes technology, incentives, regulations, and/or enforcement to reduce the amount of truck idling. Trucks use nearly one gallon of fuel per hour when idling, emitting about 8 kilograms (kg) of CO_2 per hour.[24] Two specific opportunities were identified to reduce the amount of idling by trucks in Rhode Island.

Truck Stop Electrification (TSE)

Provision of plug-in "shore power" at truck stops allows long-haul truckers to plug in to electrical and/or HVAC hookups and turn off their engines when parked overnight. Without such hookups truckers need to run their engines to heat or cool their cab, power any refrigeration devices, and run other equipment. There are some

[24] *U.S. Department of Energy (2015). "Long-Haul Truck Idling Burns Up Profits".*

examples of TSE implementation throughout the U.S. including a recent (2023) installation in New Hampshire[25] as well as on the New Jersey Turnpike and in South Carolina.

In Rhode Island, the 2022 Statewide Truck Parking Study identified the TA West Travel Center in West Greenwich as the single largest location of truck parking in the state, with 180 spaces. The next largest – the Rhode Island Welcome Center in Richmond – had only 16 spaces. The 2022 study found that most spaces at these locations are fully occupied overnight. We assume that electrical hookups are provided at the TA West Travel Center.

Challenges with this strategy include (1) capital costs of installation, (2) space constraints, (3) the need for on-board truck equipment including an inverter and appropriate HVAC equipment, and (4) low utilization rates at deployments elsewhere. Costs are discussed below; we assume that subsidies may be needed for truckers to install on-board equipment as well as for the truck stop operator to install hookups. Space constraints would need to be evaluated through a detailed site study. Given that TSE installation could reduce the total number of parking spaces that could be provided, provision of TSE should be looked at in conjunction with looking at opportunities to expand the space available for truck parking – an urgent need identified in the 2022 study. Potential utilization should be researched further via conversations with truckers.

Port of Providence

The community around Allens Avenue accessing the Port of Providence has expressed long-standing concerns about trucks idling outside of the Port. This problem is most pronounced in winter, when fuel oil suppliers line up in the early morning hours to access fuel deliveries. The State of Rhode Island has regulations prohibiting idling for more than five minutes at a time (with some exceptions to operate defrosting, heating, or cooling equipment)[26] but these are rarely enforced. Solutions could include greater enforcement (requiring truck operators to turn off engines), and/or providing a staging area where truck operators could wait indoors rather than in their vehicles.

Evaluation Method

This strategy was evaluated using custom calculations.

For TSE, total annual emission reductions were calculated as:

> 180 total spaces * 30% of spaces converted * 85% average overnight utilization * 10 hours per stop * = 167,000 hours/year idling reduced
>
> 167,000 hours/year * 0.8 gal/hr * 10.2 kg CO_2/gal * 365 days/year / 1,000,000 = **1,368** metric tons CO_2 per year

[25] Barndollar, H. "Electrified parking spaces at NH truck stop will reduce idling, air pollution." *New Hampshire Bulletin, October 12, 2023.*

[26] 250-RICR-120-05-45, *Rhode Island Diesel Engine Anti-Idling Program.*

The 10 hour stop duration is based on National Highway Traffic Safety Administration hours-of-service requirements. The 30 percent conversion rate is based on a study of deployments in Ohio and Indiana.[27] The 85 percent utilization assumption assumes that available spaces are almost fully utilized. This may be optimistic as a series of pilot deployments along major travel corridors between 2011 and 2013 showed very low utilization rates, between 1 and 8 percent, for a variety of reasons.[28]

For idle reduction at the Port of Providence, total annual emission reductions were calculated as:

20 trucks per day * 3 hours per truck per day * 120 days per year = 7,200 hours per year of idling

7,200 hours/year * 0.8 gal/hr * 10.2 kg CO_2/gal / 1,000,000 = **59** metric tons CO_2 per year

The estimates of 20 trucks per day, 3 hours per day, and 120 days per year are provided to illustrate the potential order of magnitude of benefits, with 120 days covering the coldest four months when demand for heating fuel is highest. No data has been collected on the actual number of trucks or the duration of their idling.

Results

Table 4-3 shows the estimated idle reduction and GHG emissions benefits of truck idle reduction strategies.

Table 4-3 Benefits of Truck Idle Reduction

Metric	2030	2040	2050
Change in annual hours of idling (millions) - TSE	-167,000	-167,000	-167,000
Change in annual hours of idling (millions) – Port of Providence	-7,200	-7,200	-7,200
Change in annual GHG emissions (MT CO_2) (both scenarios)	-1,400	-1,400	-1,400
GHG change, % of Current Policy without ZEV Waivers scenario	-0.1%	-0.1%	-0.1%

Costs and Implementation

A 2015 study by Argonne National Laboratory estimated the cost for shorepower hookups to be about $5,000 per parking space. For truck equipment, the study estimated a cost of up to $2,500 (Gaines and Weikersheimer, 2016). Some trucks are sold with the necessary equipment already installed. Inflating these costs to 2025 dollars would mean about $6,800 in on-site hardware costs per port and $3,400 for on-board

[27] Zietsman, J., et al (2009). Truck Stop Electrification as a Strategy To Reduce Greenhouse Gases, Fuel Consumption and Pollutant Emissions. Submitted to Transportation Research Board 2009 Annual Meeting.

[28] Gaines, L. and P. Weikersheimer (2016). Idling Reduction for Long-Haul Trucks: An Economic Comparison of On-Board and Wayside Technologies. Argonne National Laboratory, ANL/ESD-16/16.

equipment for trucks that were not hookup-ready. Truckers would pay an hourly fee for the service but in return would save about $25-30 in fuel costs for an overnight stay.

To electrify 60 spaces would therefore cost about $400,000, exclusive of any costs to physically expand the parking facility. If rebates covering 50 percent of the on-board cost were provided to 200 truckers commonly using the corridor for overnight parking, the additional cost would be about $340,000.

Truck stop idle reduction could be implemented by RIDOT or OER working in partnership with a private travel center operator. Funding might also be provided from sources external to RIDOT. Prior to proceeding with implementation, additional research is recommended to assess (1) potential use of TSE services by truckers and (2) potential interest by truck stop operators in providing the service, and (3) impacts on parking supply and alternatives for expanding truck parking along with providing TSE.

Truck idle reduction at the Port of Providence would require involvement of state or municipal police for enforcement, and potentially the Port of Providence for any capital or operating support such as heated waiting areas, signage, etc.

5.0 PRICING

The following pricing strategies were evaluated as potential options to reduce emissions.

- Mileage-based user fees.
- Peak-period pricing.
- Cap-and-invest for transportation.

None of these strategies are currently implemented in Rhode Island, and implementation of any of these would need to be done through a public process that includes consideration of the full range of benefits and costs to Rhode Island's residents and businesses. This would include policy design considerations to ensure the strategies are implemented in a manner that supports equity. Examples of equity-supportive strategies could include fees that vary by income level, or returning a portion of revenues through rebates to lower-income households. Investing proceeds to improve alternatives to driving can also help to offset the impact of costs paid by drivers.

5.1 Mileage-based User Fees

Strategy Assumptions

Rhode Island, along with many other states, is considering implementing a mileage-based user fee (MBUF) to replace the state fuel tax revenue otherwise lost from EVs or reduced because of more efficient hybrid vehicles. This charge would be collected annually based on miles traveled during the year. For this analysis it is assumed that the fee is applied to light-duty EVs and PHEVs, at a rate approximately equal to the state motor fuel tax revenue that is not collected from these vehicles.

Evaluation Method

A recent scan of MBUF research, pilots, and programs across the country found only two cases providing information on how such programs might affect VMT. In most cases, the MBUF was being proposed to replace or supplement declining motor fuel tax revenue, rather than as an additional charge for drivers. If a MBUF is priced simply to be a one-for-one replacement to the motor fuel tax, it is not clear *a priori* that it would result in any effect on VMT beyond the effect of current fuel taxes. However, the explicit presence as a VMT fee could cause motorists to consider it more strongly than the fuel tax (which is hidden within the overall cost of a gallon of gasoline).

- **Minnesota**. An early MBUF pilot study in Minnesota tested pricing levels of 5 to 25 cents per mile for different users, finding an overall average VMT reduction of 4.4 percent. This was reported in a U.S. DOT Report to Congress which concluded that, assuming typical price elasticities and vehicle operating costs, a toll of 2 cents per mile (roughly equivalent to current motor fuel taxes) is estimated to reduce VMT by about

1 percent.[29] At a range of 1 to 1.5 cents per mile (as seen in a Utah pilot program), the scaled VMT reduction would be about 0.5 to 0.7 percent. The full effects might only be seen if the MBUF were in addition to the gas tax, rather than replacing it.

- **Oregon.** The first MBUF program in the nation, Oregon's Road Usage Charge (OReGO) program[30] was launched in 2015. The program started as voluntary but will become mandatory in the future for high-MPG vehicles. The Road User Fee Task Force[31] at Oregon DOT has conducted evaluations of the OReGO program, which suggests that while the program does not result in a large-scale reduction in VMT, there are indications that participants became more conscious of their driving behavior upon seeing the cost attached to each mile traveled. The program, therefore, may create a subtle price signal.

For this evaluation for Rhode Island, the following assumptions were made:

- The fee is only applied to light-duty electric and plug-in hybrid vehicles. The fee rate is 1.5 cents per mile for EVs – or $150 annually for a vehicle driven 10,000 miles, approximately what the driver of an internal combustion engine vehicle getting 25 miles per gallon (MPG) would pay in state fuel taxes at the current rate of $0.37 per gallon. The fee rate would be half that, or 0.75 cents per mile (about $75 per year), for plug-in hybrid vehicles.
- 8.5 million total light-duty EV VMT in the State in 2030, increasing to 46.8 million in 2050 (ZEV Waiver scenario – note, the vast majority of EV VMT under the ZEV Waiver scenario is BEVs), per E3 projections.
- VMT reduction of 0.7 percent for EVs and 0.35 percent for PHEVs, based on the Minnesota study results.

Results

Table 5-1 shows the estimated VMT and GHG emissions benefits of mileage-based user fees. The GHG emission reductions are from reduced PHEV VMT. BEVs have no tailpipe emissions and Rhode Island has set a goal of producing 100 percent of its electricity from renewable energy by 2033. This strategy would result in a modest decrease in electricity sector emissions as well, prior to achieving the 100 percent renewable energy goal. For comparison, the VMT reduction represents about 0.1 percent of total statewide light-duty VMT in 2030, increasing to 0.7 percent in 2050.

[29] *Cambridge Systematics, Inc. (2006). Minnesota Mileage-Based User Fee Demonstration Project: Pay-As-You-Drive Experimental Findings. Prepared for Minnesota Department of Transportation. As reported in U.S. DOT (2010). Report to Congress on Transportation's Role in Reducing U.S. Greenhouse Gas Emissions.*

[30] *OReGO: Oregon's Road Usage Charge Program* https://www.oregon.gov/odot/programs/pages/orego.aspx

[31] *Oregon DOT Road User Fee Task Force* https://www.oregon.gov/odot/programs/pages/road-user-fee-task-force.aspx

Table 5-1 Benefits of Mileage-based User Fees

Metric	2030	2040	2050
Change in annual light-duty VMT (millions)	-8.5	-32.6	-45.6
Change in annual GHG emissions (MT CO_2e), Current Policy without ZEV Waivers scenario	-100	-220	-300
Change in annual GHG emissions (MT CO_2e), Current Policy + ZEV Waivers scenario	-80	-30	0
GHG change, % of Current Policy without ZEV Waivers scenario	0.0%	0.0%	0.0%

Costs and Implementation

A mileage-based fee would be implemented by the RI Division of Taxation, potentially in coordination with RIDOT on pilot-testing and implementation mechanisms. There are different mechanisms by which the fee could be applied, but it could be collected at the time of registration renewal based on either monitored or self-reported annual mileage. It would be feasible to start collecting such a fee before 2030. Benefits would increase over time as more EVs and PHEVs enter the market.

Annual administration costs for the fee are estimated to be 10 percent of annual revenues. There would also be start-up costs to design and implement the program, estimated at $1 million.

5.2 Peak-Period Pricing

Strategy Assumptions

Peak-period pricing means pricing travel at peak times and locations to encourage travelers to shift trips to alternative modes during those times or to less congested times. Peak-period pricing can take different forms. One form – as recently implemented in Manhattan, as well as in London and Singapore – is to price travel within a congested central city area with the price dependent upon the time of day. This is also known as "cordon pricing." Another form is to implement tolls along major travel corridors that vary by time of day. In the U.S. this has most often been done in the context of "high-occupancy/toll" (HOT) lanes where travelers can pay a time-varying fee to drive in uncongested express lanes rather than the more congested mainline. The fee is set to maintain free-flow traffic in the HOT lane.

For this analysis we assume that peak-period fees are implemented along major roads in Rhode Island that serve as routes through the Providence metro area.

Evaluation Method

It is assumed that a fee of $0.50 per vehicle would be collected at each tolling location during peak travel periods – e.g., 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 7:00 p.m. on weekdays. For this analysis, top freight bottleneck locations in the state, as identified in the State's 2020 Congestion Management Process Plan, were used to identify locations with over 50,000 annual average daily traffic (AADT), or the top 16 locations. Assuming a 10-mile average trip length, and applied to only light-duty VMT since truck VMT is relatively unresponsive to pricing, the annual VMT affected would be 5.97 billion, at a peak-period cost increase of $0.05 per mile.[32]

Doing a comprehensive analysis of time- and location-based tolling would be complicated, as a model would be needed that considers both spatial shifts in traffic (rerouting) as well as time-shifting, mode-shifting, and potentially foregone trips. Modeling conducted for the City of Boston's Carbon-Free Boston study (CS, 2019) estimated a VMT change of 0.7 percent for a price change of $0.05 per VMT. This was based on a model that accounted for rerouting and mode shifting, but not time-of-day shifting. Applying this same relative response to the hypothetical Rhode Island pricing system would lead to a reduction of 12.6 million light-duty VMT annually. This value was applied to 2030 and inflated for future years based on total VMT forecast in the Pathways model.

Results

Table 5-2 shows the estimated VMT reduction and GHG emissions benefits of peak-period pricing.

Table 5-2 Benefits of Peak-period Pricing

Metric	2030	2040	2050
Change in annual VMT (millions)	-12.6	-12.8	-12.9
Change in annual GHG emissions (MT CO_2e), Current Policy without ZEV Waivers scenario	-3,800	-3,000	-2,400
Change in annual GHG emissions (MT CO_2e), Current Policy + ZEV Waivers scenario	-3,400	-1,200	-200
GHG change, % of Current Policy without ZEV Waivers scenario	-0.1%	-0.1%	-0.0%

Costs and Implementation

This strategy would be implemented by RIDOT, but would likely require authorization by the state legislature. It would likely take two to four years to implement depending upon the toll collection method. In addition to policy and program design, implementation time would include establishing toll collection points and educating Rhode Island drivers about the new pricing system.

[32] The analysis results are not affected by the assumed average trip length.

Annual administration costs for processing tolls and enforcing collection are estimated to be 10 percent of annual revenues. There would also be start-up costs to design and implement the program, estimated at $1 million.

5.3 Cap-and-Invest for Transportation

Strategy Assumptions

A cap-and-invest program would set a limit on the amount of greenhouse gas emissions that declines over time. The state auctions allowances up to the limit of the cap and then invests the revenue in measures and programs to further reduce emissions. The combination of a price on emissions and investment in emission reduction measures incentivizes and creates greater opportunities for consumers, businesses, and other entities to transition to lower-carbon alternatives.

Economy-wide cap-and-invest programs, covering sectors including transportation, have been implemented in California and Quebec via the Western Climate Initiative (WCI) for approximately a decade. Washington State established a program in 2023, and New York State is currently developing a program with the likely earliest implementation year being 2027. Vermont is considering joining either the New York or California program. Assuming New York State initiates its program, the most feasible path forward for Rhode Island would likely be to participate in this program, although Rhode Island could also choose to join the WCI. As a small state it would be less practical for Rhode Island to create its own program.

Evaluation Method

The potential emissions benefits of joining a cap-and-invest program were recently evaluated by CS for the State of Vermont.[33] The emissions benefits in the transportation sector were found to depend on two key assumptions:

- The emissions allowance price and how it changes over time. By joining an existing program, Rhode Island would be a "price taker," accepting the allowance price set by the existing program's market and policy constraints.
- What share of auction proceeds are reinvested in emission reduction strategies and in what strategies.

Future allowance prices are uncertain and will be set by the carbon market, constrained by any policy guardrails such as a price cap. In the Vermont study, three scenarios were evaluated including a low price starting at $13/metric ton carbon dioxide-equivalent (CO_2e) in 2030, a medium price starting at $40/ton, and a high price starting at $80/ton. The low price is in the range of a potential price ceiling that might be set by New

[33] *Assessment of a Cap-and-Invest Program for Vermont. Prepared by Cambridge Systematics, Resources for the Future, and FHI Studio for the Vermont Agency of Transportation and Agency of Natural Resources, January 2025. https://climatechange.vermont.gov/cap-and-invest-study*

York State; the medium price is in the range of current WCI prices; and the high price is in the range of the WCI price ceiling. For comparison, $1 per ton is roughly equivalent to a 1 cent increase in the price of gasoline.

The low price scenario is used here since it is considered to best represent likely conditions if Rhode Island joins with a New York program. This scenario was projected to generate $32 million from transportation sector emissions in 2030 holding roughly constant in future years. Scaling to Rhode Island based on the ratio of 2023 Rhode Island to Vermont total VMT,[34] a similar program in Rhode Island might be expected to generate around $34 million annually once it is operational, which could potentially be as early as 2028.[35] It is assumed that these revenues would be directed to fund other emission reduction strategies already identified and quantified in this analysis. Therefore, the emissions benefits from the Vermont study are only those related to the effect of the carbon price (the resulting higher fuel price will encourage a reduction in vehicle-travel).

VMT changes were estimated based on elasticities derived from the Carbon Free Boston study.[36] Based on a review of fuel price elasticities, that study estimated that a $30 per ton carbon price would reduce light-duty VMT by 1.6 percent. Scaling to the low price trajectory from the Vermont study, VMT would initially be reduced in Rhode Island by about 0.7 percent, increasing to 1.8 percent by 2050. Emissions benefits were estimated from VMT changes using the light-duty emission rate from the Pathways model.

Results

Table 5-3 shows the estimated VMT reduction and GHG emissions benefits of cap-and-invest for transportation. Results are shown for both the Reference and ZEV Waiver scenarios. The benefits are lower under the ZEV Waiver scenario because only VMT by fossil-fueled vehicles is assumed to be affected by the carbon price, and the ZEV Waiver scenario includes an increasing share of ZEVs.

[34] *105% based on total VMT of 7,564 million for Rhode Island and 7,172 million for Vermont in 2023, per FHWA Highway Statistics Table VM-2. See: https://www.fhwa.dot.gov/policyinformation/statistics/2023/vm2.cfm*

[35] *The "medium" price scenario (current WCI prices) would generate about $100 million and the "high" price scenario (WCI price ceiling) about $187 million annually in Rhode Island, from the auction of transportation sector allowances.*

[36] *Cambridge Systematics, Inc. (2019). Carbon Free Boston Technical Report – Transportation Section. Prepared for Boston University – Institute for Sustainable Energy.*

Table 5-3 Benefits of Cap-and-Invest for Transportation

Metric	2030	2040	2050
Change in annual light-duty VMT (millions), Current Policy without ZEV Waivers scenario	-43.3	-61.5	-85.0
Change in annual light-duty VMT (millions), Current Policy + ZEV Waivers scenario	-37.5	-23.7	-7.3
Change in annual GHG emissions (MT CO_2e), Current Policy without ZEV Waivers scenario	-13,200	-14,400	-16,100
Change in annual GHG emissions (MT CO_2e), Current Policy + ZEV Waivers scenario	-11,600	-5,700	-1,400
GHG change, % of Current Policy without ZEV Waivers scenario	-0.5%	-0.6%	-0.8%
GHG change, % of Current Policy + ZEV Waivers scenario	-0.4%	-0.5%	-0.3%

Costs and Implementation

Implementation of a cap-and-invest program in Rhode Island would require administrative action on the part of the State (a rulemaking establishing the program and prescribing how it would be implemented) as well as authorization by the state legislature to spend revenues collected by the program. A public process will be needed to educate stakeholders and the public about the program and its potential benefits and impacts, obtain feedback on implementation approaches, and identify potential concerns. Joining another state's program will also require negotiation regarding the terms under which Rhode Island participates. Thus, the earliest practical start date would likely be in 2028 or later. Rhode Island could also consider initiating the program with an emissions reporting requirement only (for affected entities) and later begin the process of auctioning allowances and collecting and distributing proceeds.

While the program would generate net revenues, some administrative costs would be incurred. The Vermont study concluded that administrative costs would likely be on the order of 5 percent of program proceeds, with up to 10 percent representing a probable upper bound. With auction proceeds of $34 million annually, the administrative cost for a Rhode Island program would likely be in the range of $3 to $7 million. There would also be start-up costs to design and implement the program, estimated at $1 million.

6.0 SUMMARY OF FINDINGS

6.1 Baseline Emissions Projections and Target Levels

Table 6-1 shows the baseline historical and projected emissions from on-road vehicles. Projected emissions are shown for both the Current Policy without ZEV Waivers scenario and the Current Policy + ZEV Waivers scenario. The table also shows the target level of emissions, consistent with the 2021 Act on Climate, and the gap under each scenario compared to the garget. Note that the state's legislation does not specify sector-specific targets. The "target level" shown here assumes the on-road transportation sector would be responsible for reductions from 1990 levels proportional to the overall target reductions.

Table 6-1 Historical, Baseline Projected, and Target Emissions for On-road Vehicles (million metric tons CO_2e)

	1990	2019	2030	2040	2050
Historical Emissions	4.38	3.61			
Projected - Current Policy without ZEV Waivers scenario			2.82	2.29	1.96
Projected - Current Policy + ZEV Waivers scenario			2.58	1.20	0.53
Target Reduction vs. 1990			45%	80%	100%
Target Level			2.41	0.72	0.00
Gap vs. Target					
Current Policy without ZEV Waivers Scenario			0.30	1.31	1.67
Current Policy + ZEV Waivers Scenario			0.13	0.46	0.52

Sources: Historical emissions (1990 and 2019) from the Rhode Island 2022 Climate Update. Projected emissions from E3 Pathways model as provided to CS August 2025.

In 2030, there is a gap of 300,000 metric tons under the Current Policy without ZEV Waivers scenario, which is partially closed to a gap of 130,000 metric tons by the Current Policy + ZEV Waivers scenario. In 2040 and 2050, the projected gaps are larger, especially under the Current Policy without ZEV Waivers scenario. The additional clean cars and trucks under the Current Policy + ZEV Waivers scenario make significant progress towards closing the gap but do not entirely close it.

6.2 Emissions Reduction Benefits

This section summarizes the estimated emissions benefits from the various strategies evaluated and also presents the baseline forecast emissions for comparison. These figures only include on-road mobile sources – light-duty cars and trucks, medium and heavy trucks, and buses. Figure 6-1 shows a summary of the baseline forecast transportation emissions and emissions with the full set of proposed strategies, under both scenarios. Note that the effect of the strategy packages is much less under the Current Policy + ZEV Waivers scenario, since adoption of clean vehicles driven by regulation means there is less incremental benefit of clean vehicle incentives, VMT reduction, or travel efficiency measures. The target emissions values, based on the Act on Climate reductions from 1990 values (2030 or 2040) and the state's net-zero goal (2050), are also shown.

Figure 6-1 Summary of Transportation Emissions Projections

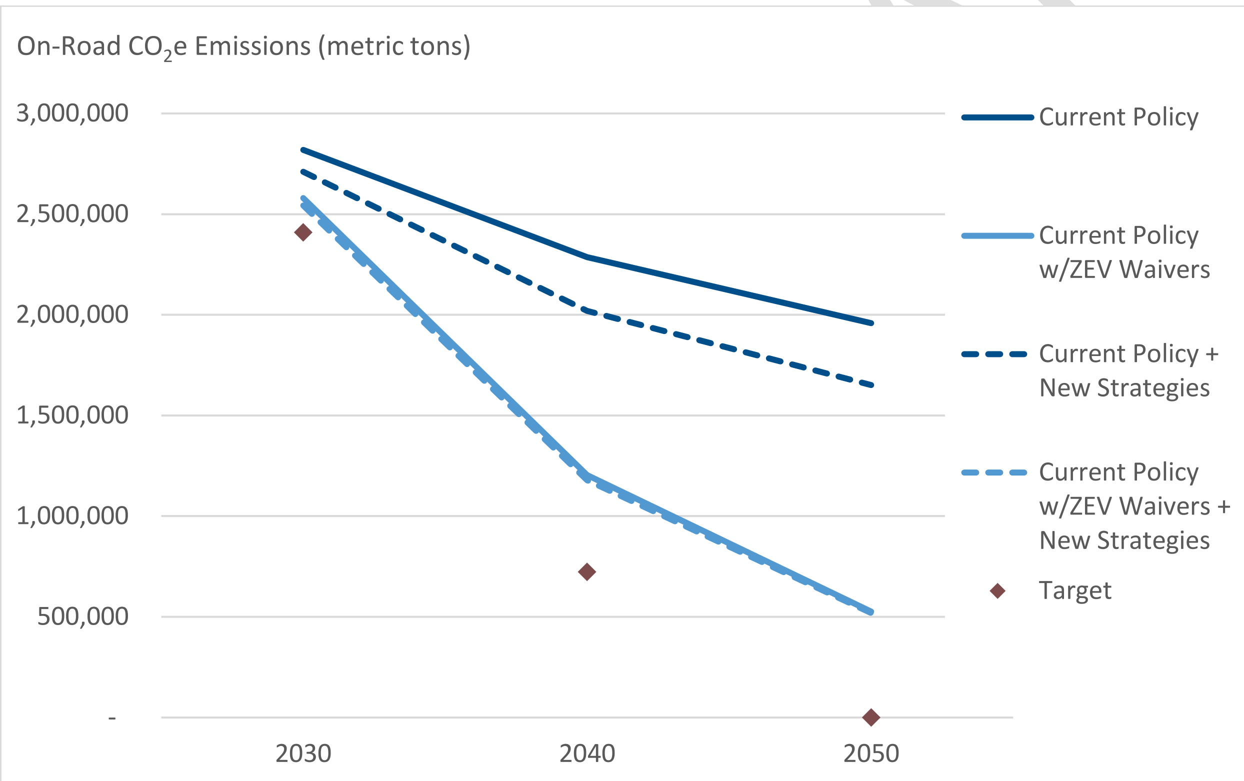

Table 6-2 shows the strategy benefits and total emissions reduction against the Current Policy without ZEV Waivers scenario – the scenario under which Rhode Island's advanced clean cars and trucks requirements are rolled back consistent with recent Federal actions. Table 6-3 shows the strategy benefits and total emissions reduction against the Current Policy + ZEV Waivers scenario – the scenario under which the clean cars and trucks rules adopted by Rhode Island prior to 2025 are maintained in place. Under the Current Policy + ZEV Waivers scenario, the ZEV strategies would not be assumed to have any incremental benefits, and many of the other strategies would have lower emissions reduction benefits because they are being applied to a more efficient and lower-emitting vehicle fleet, hence there is less benefit per VMT reduced or per hour of delay saved.

Table 6-2 GHG Emissions Benefits of Transportation Emission Reduction Strategies - Current Policy without ZEV Waivers Scenario (metric tons CO_2e)

Strategy	2030	2040	2050
Current Policy without ZEV Waivers (On-road)	**2,818,900**	**2,286,300**	**1,958,500**
Zero-Emission Vehicles			
Clean Vehicle Incentives	(33,300)	(84,500)	(101,100)
EV Charging Infrastructure	(17,800)	(45,100)	(54,000)
State and Municipal Fleet Electrification	(8,800)	(36,300)	(36,300)
Transit and School Bus Electrification	(7,300)	(38,500)	(43,600)
Mode Shift and VMT Reduction			
Active Transportation Infrastructure	(700)	(3,400)	(5,100)
Micromobility Programs, Services, And Incentives	(100)	(100)	-
Expanded Public Transit Services	(3,900)	(8,700)	(6,700)
Travel Demand Management Programs	(3,700)	(2,900)	(2,300)
Transportation-Efficient Land Use Patterns	(11,100)	(25,600)	(34,800)
Freight and Congestion Management			
Traffic Flow Improvements	(2,900)	(2,900)	(2,800)
Safety Service Patrol	(500)	(400)	(400)
Truck Idle Reduction	(1,400)	(1,400)	(1,400)
Pricing			
Mileage-based User Fees	(100)	(200)	(300)
Peak-period Pricing	(3,800)	(3,000)	(2,400)
Cap-and-Invest	(13,200)	(14,400)	(16,100)
Grand Total	**(108,600)**	**(267,300)**	**(307,400)**
% Reduction vs. Current Policy without ZEV Waivers Scenario	**-3.9%**	**-11.7%**	**-15.7%**
Target Emissions	**2,409,000**	**722,000**	**-**
Gap	**301,300**	**1,297,000**	**1,651,100**

Note: Baseline emissions are for on-road mobile sources only. Baseline emissions and emissions changes are calculated based on emission rates and vehicle activity developed by E3 using the Pathways model. Emissions estimates presented in this report may not be completely consistent with outputs of that model as applied for the Climate Action Strategy or with estimates developed previously for the Rhode Island Long Range Transportation Plan.

Table 6-3 GHG Emissions Benefits of Transportation Emission Reduction Strategies – Current Policy + ZEV Waivers Scenario (metric tons CO_2e)

Strategy	2030	2040	2050
Current Policy + ZEV Waivers (On-road)	**2,579,700**	**1,204,100**	**526,000**
Zero-Emission Vehicles			
Clean Vehicle Incentives	-	-	-
EV Charging Infrastructure	-	-	-
State and Municipal Fleet Electrification	-	-	-
Transit and School Bus Electrification	-	-	-
Mode Shift and VMT Reduction			
Active Transportation Infrastructure	(600)	(1,400)	(500)
Micromobility Programs, Services, And Incentives	(100)	-	-
Expanded Public Transit Services	(3,400)	(2,600)	800
Travel Demand Management Programs	(3,300)	(1,200)	(200)
Transportation-Efficient Land Use Patterns	(9,900)	(10,700)	(3,200)
Freight and Congestion Management			
Traffic Flow Improvements	(2,700)	(1,500)	(700)
Safety Service Patrol	(500)	(200)	(100)
Truck Idle Reduction	(1,400)	(1,400)	(1,400)
Pricing			
Mileage-based User Fees	(100)	-	-
Peak-period Pricing	(3,400)	(1,200)	(200)
Cap-and-Invest	(11,600)	(5,700)	(1,400)
Grand Total	**(37,000)**	**(26,000)**	**(7,000)**
% Reduction vs. Current Policy + ZEV Waivers Scenario	**-1.4%**	**-2.2%**	**-1.3%**
Target	**2,409,000**	**722,000**	**-**
Gap	**133,700**	**456,100**	**519,000**

Note: Baseline emissions are for on-road mobile sources only. Baseline emissions and emissions changes are calculated based on emission rates and vehicle activity developed by E3 using the Pathways model. Emissions estimates presented in this report may not be completely consistent with outputs of that model as applied for the Climate Action Strategy or with estimates developed previously for the Rhode Island Long Range Transportation Plan.

6.3 Costs

Table 6-4 shows estimated annual costs of each strategy over the 2026-2030 timeframe and cumulative costs over that period, and any anticipated revenues or savings to the State of Rhode Island. The costs and cost savings do not include any costs or savings to non-state entities such as municipalities, fleet owners, or consumers. Looking beyond 2030, costs and/or revenue/savings for some strategies will increase over time. For example, mileage-based user fee revenue for EV fees will increase as EV market penetration increases.

The table shows the total cost for all strategies. Some strategies are already funded in the STIP; the "unfunded costs" total shows the cost for additional strategies not currently funded in the STIP. Totals are also shown without Public Transportation Services (by far the largest cost item) and without Pricing strategies (the most significant revenue generator/cost saver).

The table also shows the approximate cost to the State per ton of GHG reduced. Two columns are shown, one considering only costs, and one considering revenues and cost savings. Strategies that are net revenue generators do not show a $/ton value.

Table 6-4 State Costs and Savings - Current Policy without ZEV Waivers Scenario (millions of 2025 dollars)

Strategy	Annual Costs 2026-2030	Cumulative Costs 2026-2030	Annual Revenue/ Savings 2026-2030	Annual Cost / 2030 Emissions ($/ton)	Net Annual Cost (Revenue) / 2030 Emissions ($/ton)
Zero-Emission Vehicles					
Clean Vehicle Incentives[a]	$6.3	$31.7		$189	$189
EV Charging Infrastructure[b,d]	$8.7	$43.5		$489	$489
Fleet Electrification	$2.2	$10.8	$0.1	$245	$230
Bus Electrification	$6.3	$31.4	$1.6	$860	$645
Mode Shift and VMT Reduction					
Active Transportation[d]	$30.0	$150.0		$42,857	$42,857
Micromobility	$-	$-		$-	$-
Public Transit Services[c]	$146.3	$731.7	$6.7	$37,521	$35,816
TDM Programs	$0.5	$2.5		$135	$135
Efficient Land Use Patterns	$0.6	$3.0		$54	$54
Freight and Congestion Management					
Traffic Flow Improvements[d]	$0.1	$0.3		$18	$18
Safety Service Patrol[d]	$0.5	$2.5		$1,000	$1,000
Truck Idle Reduction	$0.2	$0.8		$114	$114

Strategy	Annual Costs 2026-2030	Cumulative Costs 2026-2030	Annual Revenue/ Savings 2026-2030	Annual Cost / 2030 Emissions ($/ton)	Net Annual Cost (Revenue) / 2030 Emissions ($/ton)
Pricing					
Mileage-based User Fees	$0.4	$1.9	$3.8	$3,847	--
Peak-period Pricing	$9.2	$45.8	$89.5	$2,409	--
Cap-and-Invest	$3.6	$18.0	$34.0	$273	--
Total, All Strategies	**$214.8**	**$1,073.8**	**$135.7**	**$1,978**	**$728**
Unfunded Costs	**$175.5**	**$877.5**			
Total w/o Transit	**$68.4**	**$341.9**	**$129.1**		
Total w/o Pricing	**$201.6**	**$1,007.9**	**$8.4**		
Total w/o Transit or Pricing	**$55.3**	**$276.4**	**$1.7**		

[a]IRA incentives at 2023 rate - could be higher with more claims

[b]In addition to nearly $16 million already awarded through NEVI

[c]Capital costs spread over 2026-2040 period. Annual costs for 2026-2030 assume linear service phase-in for operating costs.

[d]Costs for this strategy are already programmed and funded in the RIDOT STIP.

6.4 Implementation Considerations

Table 6-5 summarizes the lead agency or agencies responsible for implementing the strategy as well as the current implementation status for each strategy – including whether the strategy is in progress, funded (at least for the implementation through 2030 assumed in this study), or not funded or established – and actions needed for further advancement.

Table 6-5 Implementation Status and Responsibilities

Strategy	Lead Agency	Current Status	Actions Needed for Advancement
Zero-Emission Vehicles			
Clean Vehicle Incentives	OER	Some existing funding	Increase funding for rebates
EV Charging Infrastructure	OER	Funded with Federal + state/local matching funds	Continue to implement
Fleet Electrification	DCAMM (state fleet)	In progress consistent with Executive Order	Continue to implement
Bus Electrification	RIPTA (transit), RIDEM (school bus)	Unfunded	Develop fleet transition plan; identify funding

Strategy	Lead Agency	Current Status	Actions Needed for Advancement
Mode Shift and VMT Reduction			
Active Transportation	RIDOT, municipalities	Funded in STIP	Continue funding beyond STIP horizon
Micromobility	Municipalities	Existing programs	Additional funding for program expansion
Public Transit Services	RIPTA	Existing services; expansions not funded	Additional funding for capital investment and service expansion
TDM Programs	RIPTA	Existing program; some expansion funded by EC4	Additional funding for program expansion
Efficient Land Use Patterns	RIDSP	State Guide Plan update underway (policy)	Policy direction and/or funding for incentives
Freight and Congestion Management			
Traffic Flow Improvements	RIDOT	Funded in STIP	Continue funding beyond STIP horizon
Safety Service Patrol	RIDOT, Rhode Island State Police	Funded in STIP	Continue funding beyond STIP horizon
Truck Idle Reduction	Rhode Island State Police, Port of Providence	Unfunded	Outreach to truck stop operators + potential funding; coordinate with Port and State Police
Pricing			
Mileage-based User Fees	Division of Taxation	Not established	Policy discussion to identify, design, and advance most appropriate pricing mechanism(s)
Peak-period Pricing	RIDOT	Not established	
Cap-and-Invest	OER, Division of Taxation	Not established	

6.5 Potential Additional Actions

Based on this analysis and other considerations related to transportation emission reduction strategies, the following potential additional are recommended for further consideration.

Zero-emission vehicles:

- Prioritize **building out public charging infrastructure** to provide the necessary condition for ZEV market penetration to reach target levels whether or not Advanced Clean Cars and Trucks regulations remain in place. However, the State may consider how the rate of build-out may need to vary depending upon the degree to which regulations can drive more rapid advancement of ZEVs.
- **Convert state fleets to ZEVs** (including transit buses), pending availability of suitable models matched to use cases, provides both "lead by example" implementation and operating cost savings to the state and its municipalities over time. State fleet conversion should be guided by a fleet transition plan to identify the

most cost-effective opportunities and phase-in schedules and to create the necessary supporting infrastructure.

- **Target consumer-side incentives** at (1) equitable electrification (e.g., point-of-sale rebates or electrical panel upgrades for lower-income households) and (2) medium- and heavy-duty vehicles (and associated infrastructure), which are currently less market-ready and more in need of support to overcome initial hurdles.
- **Look at ways to help other municipal service fleets**, such as municipalities, waste management companies, and school buses, with ZEV conversion with limited investment. Examples may include loans (paid back through operating cost savings), pooled purchasing of vehicles and equipment, and technical support to assist with identifying appropriate vehicles, costs, and cost savings.

Mode shift, VMT, and freight and congestion relief:

- These projects tend to have modest GHG benefits but also other benefits such as equitable mobility and delay reduction – they should not be funded solely on the basis of emissions benefits.
- The bicycle and pedestrian projects and traffic operational improvements evaluated here are already funded, or fundable at continuing current levels. Future transportation plan and program development should include **consideration of whether the state should further shift any funding priorities** towards emission-reducing projects.
- Transit improvements are the most costly way of reducing emissions, despite having important mobility and equity benefits. The level of transit service improvement modeled in this analysis is not currently funded and warrants a serious **discussion about potential future transit funding sources** if it is to be realized.
- RIDOT and its partner agencies should look at other potentially **low-cost strategies** such as incentives and technical support for local land use policy changes, and enforcing of anti-idling laws.

Pricing:

- Pricing strategies provide not only an incentive for reducing emissions, but also additional funding to support other emission reduction strategies. As such, these strategies warrant a serious, cross-agency **policy discussion** to consider which strategies would be most feasible and beneficial for the State and its residents. A cap-and-invest program is currently under development or evaluation in other northeast states, including New York and Vermont, and Rhode Island should consider joining such a program if it is established.

APPENDIX A. FUEL COST SAVINGS

Section 2.0 of this document provides estimates of fuel cost savings for electric vehicles (EV) compared to internal combustion engine vehicles. This appendix documents the basis of those estimates.

The cost savings are based on the following assumptions:

- Average miles per year per vehicle based on various sources as noted below. Vehicles in specific applications may have different annual mileage, leading to cost savings different than shown.
- Average fuel efficiency (miles per gallon), also based on various sources. Replacing vehicles with higher or lower MPG will lead to different cost savings.
- Current (2025) energy costs, including gasoline, diesel, and electricity prices, for the State of Rhode Island. Changes in future energy costs could lead to different cost savings. Also, commercial electricity rates can be highly variable based on demand charges, so the average cost per kilowatt-hour (kWh) used here may not be representative of specific applications.
- The energy efficiency ratio (EER) of an EV compared to an internal combustion engine vehicle.

Table A-1 shows the assumed energy costs in native units and dollars per gallon of gasoline equivalent (GGE), while Table A-2 shows other parameters assumed for each vehicle type and Table A-3 shows the resulting estimates of annual costs and savings related to EV conversion.

Table A-1 Energy Costs

Fuel Type	$/gallon	$/kWh	$/GGE
Gasoline	$3.05		$3.05
Diesel	$3.81		$3.43
Electricity		$0.22	$7.51

Sources:

- Gasoline and diesel – AAA State Gas Price Average, accessed August 26, 2025. Gasoline price is for Regular gasoline.
- Electricity – Energy Information Administration, Electric Power Monthly: Table 5.6.A. Average Price of Electricity to Ultimate Customers by End-Use Sector, Commercial average for Rhode Island, June 2025.
- Converted at 1.11 GGE per gallon of diesel and 34.0 kWh per GGE.

Table A-2 Energy Parameters by Vehicle Type

Vehicle Type	Miles per Year	Miles per Gallon	Fuel Type	Energy Efficiency Ratio
Light-duty vehicle	8,294	23.4	Gasoline	3.5
Medium-duty vehicle	8,416	10.7	Gasoline	3.5
Refuse truck	23,400	1.7	Diesel	4.0
Transit bus	45,523	4.9	Diesel	3.5
Demand response bus	30,307	7.8	Gasoline	3.5
School bus	12,000	10.7	Diesel	3.5

Sources:

- LDV and MDV miles per year and miles per gallon from E3/Pathways.
- Refuse truck miles per year and miles per gallon from AFLEET model v2020.
- Transit bus and demand response bus miles per year and miles per gallon from TEA-CART, based on analysis of 2019 National Transit Database data for Rhode Island (urban service).
- School bus miles per year based on U.S. Department of Energy; miles per gallon for MDV from E3/Pathways.
- Energy efficiency ratios are 3.5 per various sources cited in CS (2023),[37] adjusted to 4.0 for refuse trucks given their low-speed operating cycle.

[37] *Cambridge Systematics, Inc. (2023). Transportation Investment Strategy Tool Documentation, 2023. Prepared for Georgetown Climate Center.*

Table A-3 Energy Cost Savings

Vehicle Type	Gas/Diesel Cost / Year	EV Cost / Year	Cost Change / Vehicle / Year	12-year Cost Change/ Vehicle	Total New EVs	Cumulative Cost Change by 2040[a]
Light-duty vehicle	$1,081	$761	$(320)	$(3,841)	709	$(1.4)
Medium-duty vehicle	$2,399	$1,689	$(710)	$(8,524)	46	$(0.2)
Refuse truck	$52,444	$28,701	$(23,742)	$(284,907)	245	$(34.9)
Transit bus	$35,396	$22,139	$(13,257)	$(159,088)	418	$(28.5)
Demand response bus	$11,851	$8,342	$(3,509)	$(42,110)	100	$(1.8)
School bus	$4,273	$2,673	$(1,600)	$(19,204)	1,439	$(13.8)

[a]Cumulative cost change is computed as the 12-year cost change per vehicle * total new EVs / 2, assuming that vehicles are phased in evenly between 2028 and 2040 so that an average of 6 years of savings per vehicle is realized by 2040.

APPENDIX B. MODELED STIP AND LTRP PROJECTS

Table B-1 Modeled STIP Projects

TIP ID	Project Description	Category
1294	SDW US-1N Post Rd. (Coronado to Elmwood)	Pedestrian
1294	SDW US-1N Elmwood Ave (Post Rd. to 6th Ave)	Pedestrian
1294	SDW US-1S Elmwood Ave (6th Ave to Post Rd)	Pedestrian
1294	SDW US-1S Post Rd (Elmwood to Coronado)	Pedestrian
1297	SDW RI-114S (Old County Rd. to Federal Rd.)	Pedestrian
1298	SDW County Rd W (Kings Gate Rd. to RI-114S)	Pedestrian
1298	SDW County Rd W (Kings Gate Rd. to Roundabout)	Pedestrian
1298	SDW Willett Ave W (County Rd to EPVD T/L)	Pedestrian
1298	SDW County Rd W (Washington Rd. to Kings Gate Rd.)	Pedestrian
1298	SDW County Rd E (EPVD T/L to Washington Rd.)	Pedestrian
1298	SDW County Rd W (Barr T/L to Metro Park Dr.)	Pedestrian
1298	SDW County Rd W (Peck Ave. to Barr T/L)	Pedestrian
1298	SDW RI-103 Willett Ave E (Park Dr to Peck Ave)	Pedestrian
1298	SDW Bristol Ave Roundabout - Inner	Pedestrian
1298	RI-103E (Peck Ave to RI-103W Roundabout)	Pedestrian
1298	SDW RI-103W (Metro Park Dr. to Park Dr.)	Pedestrian
1298	SDW Willett Ave E (Bullocks Pt. Ave to Willett) -L	Pedestrian
1298	SDW Willett Ave E (Bullocks Pt. Ave to Willett) -R	Pedestrian
1298	SDW Pawtucket N (Willett to Bullocks Pt. Ave)-L	Pedestrian
1298	SDW Pawtucket N (Willett to Bullocks Pt. Ave)-R	Pedestrian
1298	SDW County Rd W (Roundabout to Willett Ave.)	Pedestrian
1298	SDW RI-103W (County Rd to Willett Ave)	Pedestrian
1298	SDW RI-103A E (Willett Ave. to Crescent View Ave.)	Pedestrian
1298	SDW RI-103W (Willett Ave. to Vets Memorial Parkway)	Pedestrian
1298	SDW RI-103E (Vets Memorial Parkway to Willett Ave.)	Pedestrian
1298	SDW RI-103W (Willett Ave. to Vets Memorial Parkway)	Pedestrian
1298	SDW Willett Ave W (Pawtucket Ave. to Park Dr.)	Pedestrian
1298	SDW Willett Ave E (Park Dr. to Pawtucket Ave.)	Pedestrian
1298	SDW County Rd W (RI-114S to Kings Gate Rd.)	Pedestrian
1299	SDW Hope St N (Walley St to Constitution St)	Pedestrian
1299	SDW Hope St S (Union St to Burnside St)	Pedestrian
1299	SDW Hope St S (Burnside St to Wood St)	Pedestrian
1299	SDW Ferry Rd S (Wood St to Metacom Ave)	Pedestrian
1300	SDW_43 RI-114N Main St (Bristol T/L to Wheaton St.)	Pedestrian
1318	SDW Mendon Rd N (Lincoln T/L to G. Washington Hwy)	Pedestrian
1318	SDW Mendon Rd N (RI-122 to I-295N Ramp to I-295)	Pedestrian
1318	SDW Mendon Rd S (I-295 to Lincoln T/L)	Pedestrian
1318	Route 122 at Broad Street	Signal
1318	Route 122 at Angell Road	Signal
1323	SDW Taunton Ave E (RI-114 to MA S/L)	Pedestrian
1323	SDW Taunton Ave W (MA S/L to RI-114)	Pedestrian
1325	SDW Pawtucket Ave N (Roslyn Ave. to Marietta St.)	Pedestrian

TIP ID	Project Description	Category
1325	SDW Pawtucket Ave N (Warren Ave. to North of Waterman Ave.))	Pedestrian
1325	SDW Pawtucket Ave S (Marietta St. to Roslyn Ave.)	Pedestrian
1325	SDW Pawtucket Ave S (North of Waterman Ave. to Warren Ave.)	Pedestrian
1335	Jamestown Safe Routes to School	Pedestrian
1338	SDW (US-6AW Winfield Road to US-6)	Pedestrian
1347	SDW School St E (RI-126 to Briarwood Dr)	Pedestrian
1347	SDW School St W (Briarwood Rd to RI-126)	Pedestrian
1355	SDW Aquidneck Ave N (Green End to East Main)	Pedestrian
1359	SDW RI-214S (RI-138 to Haymaker)	Pedestrian
1359	SDW RI-214N (Green End Ave to RI-138)	Pedestrian
1359	SDW RI-214N (RI-138A to Green End Ave)	Pedestrian
1361	SDW South Pier Rd. W (RI-108 to Boon St.)	Pedestrian
1362	Boston Neck Bike Path (Narrgansett T/L to RI-138)	Bicycle
1362	Boston Neck Bike Path (RI-138 to Fairway Dr.)	Bicycle
1362	Boston Neck Bicycle Route (Sprague Bridge to Bridgetown Rd.)	Bicycle
1362	Boston Neck Bicycle Route (Bridgetown Rd. to NK T/L)	Bicycle
1362	S. County Trail Shared Path (Exeter T/L to RI-102)	Bicycle
1362	S. County Trail Bicycle Lane (Charlestown T/L to SK T/L)	Bicycle
1362	S. County Trail Bicycle Lane (Richmond T/L to RI-138)	Bicycle
1362	S. County Trail Shared Path (SK T/L to NK T/L)	Bicycle
1362	S. County Trail Shared Path (RI-138 to Exeter T/L)	Bicycle
1371	SDW Sayles Hill Rd E (RI-146 to Masjid Al-Islam)	Pedestrian
1371	SDW Sayles Hill Rd W (Masjid Al-Islam to RI-146)	Pedestrian
1371	SDW Sayles Hill Rd E (RI-99 to RI-126)	Pedestrian
1371	SDW Sayles Hill Rd W (RI-126 to RI-99)	Pedestrian
1376	SDW RI-114S (Turnpike Ave. to Willow Lane)	Pedestrian
1376	SDW RI-114N (Anselmo Dr. to Turnpike Ave.)	Pedestrian
1376	SDW RI-114S (Portsmouth T/L to John Kesson Ln.)	Pedestrian
1376	SDW RI-114S (Mail Coach Rd. to Middletown T/L)	Pedestrian
1376	SDW Sprague St. W (RI-24 to RI-114)	Pedestrian
1376	SDW Sprague St. E (RI-114 to RI-24)	Pedestrian
1376	SDW Sprague St. W (RI-138 to RI-24)	Pedestrian
1376	SDW Sprague St. E (RI-24 to RI-138)	Pedestrian
1376	W. Main Ped/Bike Path (Stringham to Mill)	Bicycle
1379	SDW RI-138N (Hedley St to Turnpike Ave)	Pedestrian
1379	SDW RI-138S (Turnpike Ave to Henry Danis Ct)	Pedestrian
1379	SDW RI-138S (Henry Danis Ct to Hedley St)	Pedestrian
1386	SDW US-1N (Rochambeau to Hillside)	Pedestrian
1386	SDW US-1S (Hillside to Rochambeau)	Pedestrian
1415	SDW RI-5N (W Natick Rd to Greenwich Ave)	Pedestrian
1417	SDW Providence St N (RI-115 to Blossom St)	Pedestrian
1417	SDW Providence St S (Blossom St to RI-115)	Pedestrian
1417	SDW New London Ave S (RI-115 to Tanglewood Dr)	Pedestrian
1417	SDW New London Ave N (Tanglewood Dr to RI-115)	Pedestrian
1420	SDW US-1 N (RI-78 to Union St.)	Pedestrian
1420	SDW US-1 S (Union St. to RI-78)	Pedestrian
1473	SDW New Meadow Rd N (Christine Dr. to MA S/L)	Pedestrian
1474	SDW Massasoit Ave E (Woodward Ave to Arvin Ave)	Pedestrian
1479	SDW Langworthy Road N (Shore Rd. to Post Rd.)	Pedestrian
1479	SDW Langworthy Road S (Post Rd. to Shore Rd.)	Pedestrian

TIP ID	Project Description	Category
1578	SDW RI-7N (Providence T/L to Governor John Notte Park)	Pedestrian
3061	Henderson Bridge Shared Use Path (South)	Bicycle
3223	SDW RI-102N (RI-1A to US-1)	Pedestrian
3223	SDW RI-102S (US-1 to RI-1A)	Pedestrian
3346	SDW RI-126N (Pawtucket T/L to Pond Ave)	Pedestrian
3346	SDW RI-126S (Grandview Ave to Reservoir Ave)	Pedestrian
3346	SDW RI-126S (RI-123 to Grandview Ave)	Pedestrian
3346	SDW RI-126N (Chapel St to RI-123)	Pedestrian
3346	SDW RI-123W (River Rd to Great Rd)	Pedestrian
3346	SDW Walker St E (RI-126 to Moshassuck Rd.)	Pedestrian
3346	SDW Walker St W (Moshassuck Rd. to RI-126)	Pedestrian
5045	Ten Mile River Greenway, Segment 1-4	Bicycle
5058	SDW Main Street S (Spring St to Highview Ave)	Pedestrian
5070	SDW RI-138A N (Purgatory Rd. to Reservoir Ave.)	Pedestrian
5070	SDW RI-138A S (Reservoir Ave. to Purgatory Rd.)	Pedestrian
5070	SDW RI-138A N (Prospect Ave to Green End Ave)	Pedestrian
5072	SDW Purgatory Rd. W (Paradise Ave. to RI-138A)	Pedestrian
5072	SDW Purgatory Rd. E (RI-138A to Paradise Ave.)	Pedestrian
5089	William C. O'Neill Bike Path Extension - Phase 4B	Bicycle
5093	SDW Ocean Rd S (Beach St to South Pier Rd)	Pedestrian
5097	SDW Corn Neck Rd S (Beach Ave to Ocean Ave)	Pedestrian
5098	SDW Chapel St E (Old Town Rd to Water St)	Pedestrian
5106	SDW Farewell St. N (Americas Cup to Van Zandt)	Pedestrian
5107	SDW Bellevue Ave S (Bowery St. to Rough Pt.)	Pedestrian
5107	SDW SPC N Bellevue Ave (Narr. Ave to Casino Ter.)	Pedestrian
5107	SDW SPC S Bellevue Ave (RI-138A to Bowery St.)	Pedestrian
5107	SDW SPC N Bellevue Ave (Casino Ter. to Kay St.)	Pedestrian
5107	SDW SPC S Bellevue Ave (Kay St. to RI-138A)	Pedestrian
5109	SDW Hillside Ave N (Bedlow Ave. to Adm. Kalbfus)	Pedestrian
5120	SDW Post Rd N (W Main St to Camp Ave)	Pedestrian
5120	SDW Post Rd S (Camp Ave to W Main St)	Pedestrian
5127	SDW RI-102 W (Wickford Junction to RI-2 Quaker Ln)	Pedestrian
5161	Aquidneck Island Bikeway - Melville Connector	Bicycle
5178	NBT/WRG: Providence Woonasquatucket Greenway Enhancements	Bicycle
5179	Woonasquatucket Signing & Landscaping	Pedestrian
5202	Providence Waterplace and Riverwalk Repairs and Walkway Improvements	Pedestrian
5215	Washington Secondary Bike Path Extension	Bicycle
5229	SDW Old County Rd N (Mountaindale to Wolf Hill)	Pedestrian
5229	SDW Old County Rd S (Old County Elementary School)	Pedestrian
5267	Safe Routes to School Infrastructure Improvements for Hugh Cole Elementary School and Kickemuit Middle School	Pedestrian
5293	Blackstone River Bikeway - Segment 8A	Bicycle
5319	Blackstone River Bikeway - Segment 8B-2	Bicycle
5375	Bald Hill Road at Quaker Lane	Signal
5376	Route 102 at Central St.	Signal
5376	Route 102 at East Avenue	Signal
5376	Route 102 at Middle School	Signal
5376	I-195 West Off-Ramp to Eddy Street	Signal

TIP ID	Project Description	Category
5377	West Shore Road at Warwick Avenue	Signal
5377	Route 401 at Route 1	Signal
9002	Trestle Trail - West Section - Paving	Bicycle
9004	East Main Road Shared Use Path - Phase 1 - Union Street to Sandy Point Avenue	Bicycle
9013	Blackstone River Bikeway - Segment 3A-2	Bicycle
9201	SDW Admiral Kalbfus Rd W (JTConnell Hwy to 3rd St)	Pedestrian
9201	SDW RI-138E (Adm Kalb E on Ramp to JTConnell)	Pedestrian
9201	SDW RI-138E Adm Kalbfus (Girard Ave to Pell OnRamp)	Pedestrian
9201	SDW RI-138 Adm Kalbfus (Girard Ave to Pell OnRamp)	Pedestrian
9201	SDW Pell Bridge On-Ramps - Upper	Pedestrian
9201	SDW Pell Bridge On-Ramps - Lower	Pedestrian
9201	Pell Phase 1 - Shared Use Path	Bicycle
9201	Pell Bridge Ramps Phase 2 - Shared Use Path	Bicycle
9540	SDW Dexter St. E (Broad St. to MA/SL)	Pedestrian
9540	SDW Dexter St. W (Curran Rd. to Broad St.)	Pedestrian
9561	SDW RI-5S (Cranston St. to Mayfield Ave.)	Pedestrian
9561	SDW RI-5N (Mayfield Ave. to Cranston St.)	Pedestrian
9992	SDW Narr. Ave. W (Howland Ave. Westwood Rd.)	Pedestrian
9992	SDW Narr. Ave. E (North Rd. to Howland Ave.)	Pedestrian
9992	SDW Narr. Ave. E (Westwood Rd. to North Rd.)	Pedestrian
9998	SDW RI-113W to RI-2N	Pedestrian
9998	SDW RI-113E East Ave (Commonwealth Ave to I-295S)	Pedestrian
9998	SDW RI-113E East Ave (I-295S to RI-5)	Pedestrian
9998	Bald Hill Road at East Avenue	Signal
12111	Washington Secondary BP (RI-117 to Warwick TL)	Bicycle
12111	Washington Secondary BP (Warwick TL to Cranston TL)	Bicycle
12111	Washington Secondary BP (Cranston TL to Depot Ave)	Bicycle
12113	Congested Corridor Upgrades - US-44 (Austin Rd to Johnston T/L)	Signal
12113	Congested Corridor Upgrades - US-44 (Smithfield T/L to North Providence T/L)	Signal
12113	Congested Corridor Upgrades - US-44 (Johnston T/L to Providence T/L)	Signal
12113	Congested Corridor Upgrades - US-44 (North Providence T/L to Candace St)	Signal
12113	Congested Corridor Upgrades - US-44 (Centerdale Bypass)	Signal
12113	Congested Corridor Upgrades - Mineral Spring (Brookside Avenue to Pawtucket C/L)	Signal
12113	Congested Corridor Upgrades - Mineral Spring (North Providence T/L to Smithfield Avenue)	Signal

Table B-2 LRTP: Transit Master Plan Projects

Route Number	Route Name	Plan Service Type
3	Oakland Beach	Local 30 All Day
4	Warwick Neck	Local 30 All Day
6	Prairie Ave - Roger Williams Park Zoo	Local 30 Peak
7	Quonset Express	Express
9	Pascoag Park-n-Ride	Express
10x-A	Amazon Express	Express
10x-S	North Scituate	Express
11	R-Line Broad St - N Main St	Rapid Bus
13	Coventry - Arctic - Warwick Mall	Local 30 All Day
14	West Bay	Regional 30 All Day
16	Bald Hill - NEIT - Quonset	Local 30 All Day
18	Union Avenue	Local 20 Peak
19	Plainfield - Westminster	Frequent Route
20	Elmwood Ave - T.F. Green Airport	Rapid Bus
22	Pontiac Avenue	Frequent Route
23	Arctic - Crompton - Centre of New England	Local 30 All Day
24	Newport/Fall River/Providence	Regional 30 All Day
27	Broadway - Manton	Rapid Bus
28	Broadway - Hartford	Frequent Route
29	CCRI Warwick - Conimcut	Local 30 Peak
30	Arlington - Oaklawn	Local 30 All Day
31	Cranston Street	Rapid Bus
32	East Providence - Wampanoag	Local 20 Peak
33	Riverside	Local 20 Peak
34	East Providence	Local 20 Peak
35	Rumford - Newport	Local 30 All Day
40	Butler - Elmgrove	Local 30 All Day
50	Douglas Avenue	Frequent Route
51	Charles Street	Frequent Route
54	Lincoln - Woonsocket	Regional 15 Peak
55	Admiral - Providence College	Local 20 Peak
56	Chalkstone Avenue	Rapid Bus
57	Smith Street	Local 20 Peak
58	Mineral Spring - North Providence	Local 30 All Day
60	Providence - Newport	Regional 15 Peak
61	Tiverton - East Bay Park-n-Ride	Express
63	Broadway - Middletown Shops	Local 20 Peak
64	Newport - URI Kingston	Local 30 All Day
65	Wakefield Park-n-Ride	Express
66	URI - Galilee	Regional 30 All Day
67	Bellevue - Salve Regina Univ	Local 20 Peak
68	CCRI NPT - Mem. Blvd - First Beach	Local 30 All Day
69	Narragansett - Galilee	Local 30 All Day
71	Broad Street - Pawtucket Ave	Local 20 Peak
72	Weeden - Central Falls	Frequent Route
73	Mineral Spring - Twin River - CCRI	Local 30 All Day
75	Dexter Street	Local 30 All Day
76	Central Avenue	Local 30 All Day

Route Number	Route Name	Plan Service Type
78	Beverage Hill Ave - East Providence	Rapid Bus
80	Armistice Blvd	Local 30 Peak
87	Fairmount - Walnut Hill	Local 30 All Day
88	Simmons Village Service	Select Trips
89	Thursday Only Walmart Cranston	Select Trips
92	RI College - Federal Hill - East Side	Frequent Route
95	Westerly Park-n-Ride	Express
301	Westerly/Hope Valley Friday Flyer	Select Trips
BB	South County Express Beach Bus	Select Trips
N6	Woonsocket -Pawtucket via Rte 122	Local 30 Peak
N7	Valley Street	Frequent Route
N8	Providence-CCRI Warwick via TF Green	BRT[a]
N10	Pawtucket-North Providence	Frequent Route
N11	Cranston/Park Ave	Frequent Route
N12	Central Falls-CCRI Warwick	BRT[a]
N13	Olneyville Square- Eddy St	Frequent Route
N16	Manville/Bellingham	Local 30 All Day
N19	Westerly-Bradford	Local 30 Peak
N20	Narragansett-Newport	Local 30 All Day
N117	Manville/Bellingham	Rapid Bus
203	Narragansett Flex	Flex+
204	Westerly Flex	Flex+
210	Kingston Flex	Flex+
231	South Aquidneck Flex	Flex+
242	West Warwick - Coventry Flex	Flex+
281	Woonsocket Flex	Flex+
282	Pascoag - Slatersville Flex	Flex+
289	Wickford/Quonset Flex	Flex+
	T.F. Green / Warwick Platform Expansions	Commuter Rail
	MBTA Commuter Rail All-Day Frequency	Commuter Rail

[a]For the purposes of this analysis, the planned N8 and N12 corridors are evaluated as BRT routes. This analysis uses ridership estimates from *Transit Forward RI 2040,* which were conservatively projected using high level metrics. However, RIPTA is currently evaluating both LRT and BRT alternatives for these corridors in the Metro Connector Alternatives Analysis, and a more detailed set of ridership estimates for both LRT and BRT alternatives will be available when that study is complete.

Table B-3 Bicycle Mobility Plan Projects

Town	Description	Project Type
Barrington	Bay Spring Ave from East Bay Bike Path to Washington Rd	Bike Lane
Barrington	Federal Rd from Middle Hwy to County Rd	Bike Lane
Barrington	Lincoln Ave from Washington Rd to Middle Hwy	Bike Lane
Barrington	Massasoit Ave from County Rd to New Meadow Rd	Bike Lane
Barrington	Middle Hwy from Lincoln Ave to Federal Rd	Bike Lane
Barrington	New Meadow Rd from Massasoit Ave to Kent St	Bike Lane
Barrington	Rt 114 from Town Hall Dr (N) to East Bay Bike Path	Bike Lane
Barrington	Sowams Rd from Kent St to County Rd	Bike Lane
Barrington	Washington Rd from Lincoln Ave to Bay Spring Ave	Bike Lane
Bristol	Bourne St from Wood St to Hope St	Bike Lane
Bristol	Dolly Dr from East Bay Bike Path to Hope St	Bike Lane
Bristol	Ferry Rd from Metacom Ave to Mt Hope Bridge	Bike Lane
Bristol	Ferry Rd from Wood St to Metacom Ave	Bike Lane
Bristol	Franklin St from Wood St to Metacom Ave	Bike Lane
Bristol	Gooding Ave from Hope St to Metacom Ave	Bike Lane
Bristol	Greylock Rd from East Bay Bike Path to Westwood Rd	Bike Lane
Bristol	Hope St from Gooding Ave to Wayland Rd	Bike Lane
Bristol	Hope St from Tupelo St to Dolly Dr	Bike Lane
Bristol	Metacom Ave from Jameson Dr to Ferry Rd	Bike Lane
Bristol	Mt Hope Bridge from Ferry Rd to Bristol Ferry Rd	Bike Lane
Bristol	Rt 114/Hope St from East Bay Bike Path Terminus to Ferry Rd	Bike Lane
Bristol	Thames St from Oliver St to Franklin St	Bike Lane
Bristol	Tupelo St from Hope St to Metacom Ave	Bike Lane
Bristol	Wayland Rd from Westwood Rd to Hope St	Bike Lane
Bristol	Westwood Rd from Greylock Rd to Wayland Rd	Bike Lane
Bristol	Wood St from Franklin St to Ferry Rd	Bike Lane
Burrillville	Broncos Hwy/Rt 102 from Inman Rd to Central St	Shared Use Path
Burrillville	Chestnut Hill Rd from Pine Orchard Rd to Putnam Pike	Bike Lane
Burrillville	Cooper Rd from Douglas Hook Rd to Long Entry Rd	Bike Lane
Burrillville	Douglas Hook Rd from Putnam Pike to Cooper Rd	Bike Lane
Burrillville	Pine Orchard Rd from Putnam Pike to Chestnut Hill Rd	Bike Lane
Burrillville	Railroad Right of Way from Broncos Hwy to Inman Rd	Shared Use Path
Burrillville	Railroad Right of Way from Mowry St to Aspen Ln	Shared Use Path
Burrillville	Railroad Right of Way from State Border (200' north of Oak Hill Rd) to Pascoag Main St	Shared Use Path
Burrillville	Reservoir Rd from S Main St to Putnam Pike	Bike Lane
Burrillville	Spring Lake Rd/Main St/Victory Hwy from N Shore Rd to Walling Rd	Bike Lane
Burrillville	Victory Hwy from Railroad Right of Way (300' north of Marcoux Way) to Inman Rd/Broncos Hwy	Bike Lane
Central Falls	Blckstone Valley Bikeway from Heritage Park Cumberland to Pierce Park Central Falls	Shared Use Path
Central Falls	Broad St from Central St to City line	Bike Lane
Central Falls	Broad St/High St/Charles St from Mill St to Roosevelt Ave	Bike Lane
Central Falls	Central St from Washington St to Broad St	Bike Lane
Central Falls	Dexter St from Hunt St to Clay St	Bike Lane
Central Falls	High St from Broad St to River St	Bike Lane
Central Falls	Hunt St from High St to Washington St	Bike Lane

Town	Description	Project Type
Central Falls	Hunt St from Washington St to Dexter St	Bike Lane
Central Falls	Pine St from Rand St to Barton St	Bike Lane
Central Falls	Rand St from Dexter St to Pine St	Bike Lane
Charlestown	Carolina Back Rd from Alton Carolina Rd to S County Trail	Bike Lane
Charlestown	Charlestown Beach Rd from Matunuck School House Rd to Dead end	Bike Lane
Charlestown	E Beach Rd from Post Rd to East Beach Rd	Bike Lane
Charlestown	Ninigret Entrance Rd from Post Rd to Ninigret Entrance Rd south terminus	Shared Use Path
Charlestown	Old Post Rd from Post Rd (W) to Post Rd (E)	Bike Lane
Charlestown	Old Post Rd from Post Rd to Matunuck School House Rd	Bike Lane
Charlestown	Post Rd from Westerly Town Border to Prosser Trail	Shared Use Path
Charlestown	S County Trail from Charlestown Town Hall driveway to Post Rd	Bike Lane
Charlestown	W Beach Rd from Post Rd to Quonnie Boat Ramp	Bike Lane
Coventry	Dante Blvd from Hopkins Hill Rd to Hopkins Hill Rd	Bike Lane
Coventry	Hill St from Colvin St to Arkwright-Harris River Walk	Bike Lane
Coventry	Hopkins Hill Rd from S Main St to 200' south of Tiogue Ave	Bike Lane
Coventry	Log Bridge Rd/Old Summit Rd/Flat River Rd from Washington Secondary Trail to Victory Hwy	Bike Lane
Coventry	S Main St from Main St to Hopkins Hill Rd	Bike Lane
Cranston	Bald Hill Rd from Quaker Ln to Toll Gate Rd	Separated Bike Path
Cranston	Bald Hill Rd/Cotirell St from W Natick Rd to Oaklawn Ave	Separated Bike Path
Cranston	Broad St from Narragansett Blvd to Bridge St	Bike Lane
Cranston	Dallas Ave from Pawtuxet River Trail to Milton Ave	Bike Lane
Cranston	Dean Pkwy/Budlong Rd from Meshanticut Valley Pkwy to Garden City Dr	Bike Lane
Cranston	Depot Ave from Cranston St to Dead end	Bike Lane
Cranston	Fernbrook Dr from Oaklawn Ave to Summit Dr	Bike Lane
Cranston	Garden City Dr from Budlong Rd to Pontiac Ave	Bike Lane
Cranston	Mayfield Ave/East Ave/Pontiac Ave from Oaklawn Ave to Howard Ave	Bike Lane
Cranston	Meshanticut Valley Pkwy from Summit Dr to Dean Pkwy	Bike Lane
Cranston	Milton Ave from Park Ave to Dallas Ave	Bike Lane
Cranston	Oaklawn Ave from Sherman Ave to Fernbrook Dr	Bike Lane
Cranston	Park Ave from Elmwood Ave to FC Greene Memorial Blvd	Bike Lane
Cranston	Park Ave from FC Greene Memorial Blvd to Rte 117	Bike Lane
Cranston	Park Ave from Warwick Ave to Milton Ave	Bike Lane
Cranston	Park Ave from Washington secondary Bike Path crossing Park Ave to Elmwood Ave	Bike Lane
Cranston	Pontiac Ave from Garden City Dr to Park Ave	Bike Lane
Cranston	Pontiac Ave from Howard Ave to Sockanosset Cross Rd	Bike Lane
Cranston	Pontiac Ave from Sockanosset Cross Rd to Garden City Dr	Bike Lane
Cranston	Quaker Ln from Division Rd to Bald Hill Rd	Shared Use Path
Cranston	Rhodes Pl from Pawtuxet River Trail to Broad St	Bike Lane
Cranston	Sherman Ave from Washington Secondary Trail to Oaklawn Ave	Bike Lane
Cranston	Summit Dr from Fernbrook Dr to Meshanticut Valley Pkwy	Bike Lane
Cranston	W Natick Rd from Washington Secondary Trail to Bald Hill Rd	Shared Use Path
Cranston	Wayland Ave from Phenix Ave to Cranston St	Separated Bike Path

Town	Description	Project Type
Cumberland	Main St/Manville Hill Rd from Existing Path (100' north of Railroad St) to Mendon Rd	Bike Lane
Cumberland	Mendon Rd from Cumberland Hill Rd to Nate Whipple Hwy	Bike Lane
Cumberland	Rt 114 from Nate Whipple Hwy to Pine Swamp Rd	Bike Lane
Cumberland	Rt 122 / Mendon Rd from I-295 to Ann and Hope Way	Bike Lane
East Greenwich	1st Ave from Kenyon Ave to Main St	Bike Lane
East Greenwich	Cedar Ave from Kenyon Ave/Middle Rd to Post Rd	Bike Lane
East Greenwich	Crompton Rd/Shippeetown Rd/Middle Rd from New London turnpike to S County Trail	Bike Lane
East Greenwich	Division St from Kenyon Ave to Post Rd/Main St	Bike Lane
East Greenwich	Kenyon Ave from 1st Ave to Cedar Ave	Bike Lane
East Greenwich	Kenyon Ave from Division St to 1st Ave	Bike Lane
East Greenwich	Main St from Division St to 1st Ave	Bike Lane
East Greenwich	Middle Rd from S County Trail to Cedar Ave	Bike Lane
East Greenwich	Old Forge Rd from Post Rd to Potowomut Rd	Separated Bike Path
East Greenwich	S County Trail from Division St to Midle Rd	Separated Bike Path
East Greenwich	S County Trail from Middle Rd to Frenchtown Rd	Separated Bike Path
East Greenwich	South Rd from Narrow Ln to Tillinghast Rd	Bike Lane
East Greenwich	Tillinghast Rd from Frenchtown Rd to S Rd	Bike Lane
East Providence	Armistice Blvd from George Bennett Hwy to Perrin Ave	Bike Lane
East Providence	Armistice Blvd from N Bend St to George Bennett Hwy	Bike Lane
East Providence	Armistice Blvd from Perrin Ave to 10 Mile River Greenway	Bike Lane
East Providence	Centre St from North Broadway to Pawtucket Ave	Bike Lane
East Providence	Dexter Rd from Waterfront Dr to Massasoit Ave	Bike Lane
East Providence	Ferris Ave from Newport Ave to Wolf School Entrance	Bike Lane
East Providence	Henderson Bridge off-ramp from Henderson Bridge to Massasoit Ave	Separated Bike Path
East Providence	Henderson Bridge off-ramp from Henderson Bridge to Massasoit Ave/Dexter Rd	Separated Bike Path
East Providence	Henderson Bridge on-ramp from Henderson Bridge to Massasoit Ave	Separated Bike Path
East Providence	Henderson Path from Waterfront Dr to Hunts Mill Rd	Shared Use Path
East Providence	Massasoit Ave / Waterfront Dr from North Broadway to I-195	Separated Bike Path
East Providence	Massasoit Ave from Dexter Rd to North Broadway	Bike Lane
East Providence	N Broadway/Newman Ave from Pawtucket Ave to Centre St	Bike Lane
East Providence	Newport Ave from State Border to Warren Ave	Bike Lane
East Providence	North Broadway from Centre St to Massasoit Ave	Bike Lane
East Providence	Pleasant St from Pawtucket Ave to Hunts Mill Rd	Bike Lane
East Providence	Prospect St/Pawtucket Ave from Pond St to Newport Ave	Bike Lane
East Providence	Warren Ave from Broadway to First St	Bike Lane
East Providence	Warren Ave from Pawtucket Ave to Broadway	Bike Lane
East Providence	Waterfront Dr from Waterman Ave to Dexter Rd	Separated Bike Path
Exeter	New London Turnpike from Carolina Nooseneck Rd to Ten Rod Rd	Bike Lane
Exeter	Nooseneck Hill Rd from Victory Hwy (north) to Victory Hwy (south)	Shared Use Path
Exeter	Nooseneck Hill Rd from Victory Hwy to Ten Rod Rd	Bike Lane
Exeter	S County Trail from Driveway (1400' north of Mail Rd/Liberty Rd) to Driveway (1300' north of Yawgoo Valley Rd)	Bike Lane
Exeter	Ten Rod Road from State Border to Nooseneck Hill Rd	Bike Lane

Town	Description	Project Type
Foster	Plainfield Pike from Chopmist Hill Rd to Tunk Hill Rd	Shared Use Path
Glocester	Broncos Hwy/Victory Hwy from Clear River Dr to Money Hill Rd	Shared Use Path
Glocester	Putnam Pike from Chopmist Hill Rd to 2000' north of Chestnut Oak Rd	Bike Lane
Glocester	Putnam Pike from State Border (1400' west of Putnam Heights Rd) to Victory Hwy	Bike Lane
Glocester	Reservoir Rd from S Main St to Putnam Pike	Bike Lane
Glocester	Victory Hwy from Railroad Right of Way (300' north of Marcoux Way) to John Steere Rd	Bike Lane
Harrisville	East Ave from Harrisville Main St to Broncos Hwy	Bike Lane
Harrisville	Railroad Right of Way/Whipple Ave from 800' east of Steere Farm Rd to Broncos Hwy	Shared Use Path
Hopkinton	Arcadia Rd from Ten Rod Rd to Main St	Bike Lane
Hopkinton	Rt 138 from CT line to Rte 3	Bike Lane
Jamestown	Beavertail Rd from Fort Getty Rd to Beavertail State Park	Bike Lane
Jamestown	Beavertail Rd from Fort Getty Rd to Hamilton Ave	Bike Lane
Jamestown	Captain St from Seaside Dr to N Main Rd	Bike Lane
Jamestown	Conanicus Ave from E Shore Rd to High St	Bike Lane
Jamestown	E Shore Rd from Summit Ave to Conanicus Ave	Bike Lane
Jamestown	Hamilton Ave from Beavertail Rd/Southwest Ave to Highland Dr	Bike Lane
Jamestown	Highland Dr from Hamilton Ave to Blueberry Ln/Fort Wetherill Rd	Bike Lane
Jamestown	Jamestown Bridge from Boston Neck Rd to North Rd	Shared Use Path
Jamestown	N Main Rd from Rte 138 to Summit Ave	Bike Lane
Jamestown	Narragansett Ave from North Rd/Southwest Ave to Conanicus Ave	Bike Lane
Jamestown	North Rd from Rt 138 to Whittier Rd	Bike Lane
Jamestown	North Rd from Whittier Rd to Narragansett Ave	Bike Lane
Jamestown	Rt 138/Claiborne Pell Newport Bridge from North Rd to Rte 238	Shared Use Path
Jamestown	Seaside Dr from Captain St to James Verrazzano Bridge	Bike Lane
Jamestown	Southwest Ave from Narragansett Ave to Hamilton Ave	Bike Lane
Jamestown	Summit Ave from E Shore Rd to N Main Rd	Bike Lane
Jamestown	Walcott Ave from High St to Blueberry Ln/Fort Wetherill Rd	Bike Lane
Johnston	Atwood Ave from Hartford Ave to Cherry Hill Rd	Bike Lane
Johnston	Cherry Hill Rd from Atwood Ave to Waterman Rd	Bike Lane
Johnston	George Waterman Rd from Putnam Pike to Cherry Hill Rd	Bike Lane
Johnston	Greenville Ave from Atwood Ave to Providence City Border	Bike Lane
Johnston	Greenville Ave from Atwood Ave to Selena Ave	Bike Lane
Johnston	Hartford Ave from Atwood Ave to Killingly St	Bike Lane
Johnston	Railroad Right of Way from Warren St to Lyman Ave	Shared Use Path
Johnston	Rt 5 from Atwood Ave to US-44	Bike Lane
Lincoln	Breakneck Hill Rd from Lower Rd to Old Quisquisset Pike	Bike Lane
Lincoln	Cullen Hill Rd from Simon Sayles Rd to Martin st	Bike Lane
Lincoln	George Washington Hwy from Appian Way to Blackstone River Bikeway	Shared Use Path
Lincoln	Great Rd from Wilbur Rd to Simon Sayles Rd	Bike Lane
Lincoln	Martin St from Cullen Hill Rd to Blackstone Bikeway ramp	Bike Lane
Lincoln	New River Rd from Main St to Existing Path (300 south of Angle St)	Bike Lane
Lincoln	Simon Sayles Rd from Great Rd to Cullen Hill Rd	Bike Lane

Town	Description	Project Type
Lincoln	Wilbur Rd from Jenckes Hill Rd to Great Rd	Bike Lane
Little Compton	W Main Rd/Warren Point Rd from East Rd to Atlantic Dr	Bike Lane
Middletown	Access Rd from Railroad Right of Way to Chase Ln	Bike Lane
Middletown	Aquidneck Ave from E Main Rd to Green End Ave	Bike Lane
Middletown	Aquidneck Ave from Valley Rd to Purgatory Rd	Bike Lane
Middletown	Brown Ln from Browns Ln/St Columbas Catholic Cemetary to W Main Rd	Bike Lane
Middletown	Burma Rd from Stringham Rd to Access Rd	Bike Lane
Middletown	Chase Ln from Access Rd to Read St	Bike Lane
Middletown	E Main Rd from Aquidneck Ave to Portsmouth Town Border	Shared Use Path
Middletown	E Main Rd from W Main Rd to Aquidneck Ave	Shared Use Path
Middletown	Green End Ave from Miantonomi Ave to Aquidneck Ave	Bike Lane
Middletown	Hanging Rock Rd from Paradise Ave to Sachuset Point Rd	Bike Lane
Middletown	Jepson Ln from Union St to Oliphant Ln	Bike Lane
Middletown	Lexington St from Read St to Coddington Hwy	Bike Lane
Middletown	Maple Ave from JT Connell Hwy to W Main Rd	Bike Lane
Middletown	Miantonomi Ave from W Main Rd/Broadway to Green End Ave	Bike Lane
Middletown	Middle Rd from Hedly St to Mill Ln	Bike Lane
Middletown	Middle Rd from Mill Ln to Union St	Bike Lane
Middletown	Mill Ln from W Main Rd to Middle Rd	Bike Lane
Middletown	New Shared-use Path from Defense Hwy to Browns Ln	Shared Use Path
Middletown	Oliphant Ln from Jepson Ln to E Main Rd	Bike Lane
Middletown	Paradise Ave from Tuckerman Ave to Hanging Rock Rd	Bike Lane
Middletown	Purgatory Rd from Aquidneck Ave to Tuckerman Ave	Bike Lane
Middletown	Railroad Right of Way from US Naval Center driveway to Peary St/JT Connell Hwy On/Off Ramps	Shared Use Path
Middletown	Sachuset Point Rd from Hanging Rock Rd to Sachuset Point Rd south terminus	Bike Lane
Middletown	Union St from Jepson Ln to Middle Rd	Bike Lane
Middletown	Union St from Middle Rd to E Main Rd	Bike Lane
Middletown	Union St from W Main Rd to Jepson Ln	Bike Lane
Middletown	Unnamed Rd from Sachuset Point Rd to Third Beach Rd	Bike Lane
Middletown	Valley Rd from Green End Ave to Aquidneck Ave	Separated Bike Path
Narragansett	Beach St/Ocean Rd from Narragansett Ave to Earles Ct	Bike Lane
Narragansett	Boston Neck Rd from Beach St to Narragansett Ave	Bike Lane
Narragansett	Boston Neck Rd from Bridgetown Rd/S Ferry Rd to Old Boston Neck Rd (south)	Bike Lane
Narragansett	Boston Neck Rd from North Kingstown Town Line to S Ferry Rd	Bike Lane
Narragansett	Boston Neck Rd from Old Boston Neck Rd to Beach St	Separated Bike Path
Narragansett	Bridgetown Rd from South Kingstown Town Border to Boston Neck Rd	Bike Lane
Narragansett	Burnside Ave from Point Judith Rd to Ocean Rd	Bike Lane
Narragansett	Ferry Service from Narragansett to Block Island Ferry Terminal	#N/A
Narragansett	Great Island Rd/Sand Hill Cove Rd from Galilee Escape Rd to Point Judith Rd	Bike Lane
Narragansett	Kingstown Rd from Mumford Rd/Lakewood Dr to Strathmore Rd	Bike Lane
Narragansett	Lakewood Dr from Kingstown Rd to South Pier Rd	Bike Lane
Narragansett	Mumford Rd from Kimberly Dr to Kingstown Rd	Bike Lane
Narragansett	Narragansett Ave from Strathmore Rd to Boston Neck Rd	Bike Lane

Town	Description	Project Type
Narragansett	Ocean Rd from Point Judith Rd to Point Judith Lighthouse	Bike Lane
Narragansett	Ocean Rd from South Pier Rd to Point Judith Rd/Old Ocean Rd	Bike Lane
Narragansett	Point Judith Rd from Foddering Farm Rd/Windermere Rd to Ocean Rd	Separated Bike Path
Narragansett	S Ferry Rd from Boston Neck Rd to Aquarium Rd	Bike Lane
Narragansett	South Pier Rd from Lakewood Dr to Ocean Rd	Bike Lane
Narragansett	South Pier Rd from Point Judith Rd to Lakewood Dr	Bike Lane
Narragansett	Strahmore Rd/Wanda Rd from Kingstown Rd/Narragansett Ave to Narragansett Ave	Bike Lane
Narragansett	Succotash Rd from Succotash Marsh Management Area to Unnamed Rd (700' north of Beach Row)	Shared Use Path
New Shoreham	Corn Neck Rd/Dodge St/Water St from Corn Neck Rd (north terminus) to Driveway (150' south of Chapel St)	Bike Lane
Newport	Admiral Kalbfus Rd from Hillsdale Ave to W Main Rd/Broadway	Bike Lane
Newport	Admiral Kalbfus Rd from Hillside Ave to First Mile Path	Shared Use Path
Newport	Americas Cup Ave from W Marlborough St to Thames St	Separated Bike Path
Newport	Aquidneck Ave from Green End Ave to Valley Rd	Bike Lane
Newport	Bellevue Ave from Coggeshall Ave to Narragansett Ave	Bike Lane
Newport	Bellevue Ave from Kay St to Memorial	Bike Lane
Newport	Bellevue Ave from Memorial Blvd to Webster St	Bike Lane
Newport	Brenton Rd from Beacon Hill Rd to Wickham Rd	Bike Lane
Newport	Broadway from Mantonomi Ave to Oak	Bike Lane
Newport	Broadway from Marlborough St to Oak	Bike Lane
Newport	Castle Hill Ave from Ocean Ave to Ridge Rd	Bike Lane
Newport	Coddington Hwy from Railroad Right of Way to Driveway (750' east of John H Chafee Blvd)	Bike Lane
Newport	Coggeshall Ave from Morton Ave to Ruggles Ave	Bike Lane
Newport	Coggeshall Ave from Ocean Ave to Bellevue Ave	Bike Lane
Newport	Ferry Service from Jamestown to Newport	#N/A
Newport	Fort Adams Dr from Fort Adams State Park to Harrison Ave	Bike Lane
Newport	Fort Adams Dr/Fort Adams Skate Park (BayWalk) from Monroe Rd to Monroe Rd	Shared Use Path
Newport	Fort Adams Dr/Lincoln Dr (BayWalk loop) from Monroe Rd to Van Buren Rd	Shared Use Path
Newport	Halidon Ave from Unnamed Road (300' west of Chastellux Ave) to Harrison Ave	Bike Lane
Newport	Harrison Ave from Ridge Rd to Ocean Ave	Bike Lane
Newport	Harrison Ave/Beacon Hill Rd from Ridge Rd to Brenton Rd	Bike Lane
Newport	Hillsdale Ave from Maple Ave to Admiral Kalbfus Rd	Bike Lane
Newport	Kay St from Bliss Mine Rd to Toruo St/Bellevue Ave	Bike Lane
Newport	Marlborough St from Americas Cup Ave to Broadway	Bike Lane
Newport	Melbone Rd from Van Zandt Ave to Admiral Kalbfus Rd	Bike Lane
Newport	Memorial Blvd from Thomas St to Annandale Rd	Separated Bike Path
Newport	Narragansett Ave from Thames St to Spring St	Bike Lane
Newport	Ocean Ave from Castle Hill Ave to Coggeshall Ave	Bike Lane
Newport	Rhode Island Ave from Broadway to Memorial Blvd	Bike Lane
Newport	Ridge Rd from Harrison Ave to Castle Hill Ave	Bike Lane
Newport	Ruggles Ave from Hazard Rd to Ochre Point Ave	Bike Lane
Newport	Spring St from Broadway to Morton Ave	Bike Lane
Newport	Thames St from Memorial Blvd to Narragansett Ave	Bike Lane

Town	Description	Project Type
Newport	Unnamed Road from Railroad Right of Way to JT Connell Hwy	Bike Lane
Newport	Valley Rd from West Main Rd to Green End Ave	Bike Lane
Newport	Van Zandt Ave from Washington St to Malbone Rd	Bike Lane
Newport	W Main Rd from E Main Rd to Miantonomi Ave	Shared Use Path
Newport	Webster St from Spring St to Ochre Point Ave	Bike Lane
Newport	Wellington Ave from Unnamed Road (300' west of Chastellux Ave) to Thames St	Bike Lane
Newport	Wickham Rd from Brenton Rd to Hazard Rd	Bike Lane
North Kingstown	Austin Rd from Potowomut Rd to Post Rd	Bike Lane
North Kingstown	Boston Neck Rd from Barbers Heights Ave to Narragansett Town Line	Bike Lane
North Kingstown	Boston Neck Rd from Beach St to Earle Dr	Bike Lane
North Kingstown	Boston Neck Rd from Brown St to Updike Ave	Bike Lane
North Kingstown	Boston Neck Rd from Earle Dr to Unnamed Rd (180' south of Crowfield)	Separated Bike Path
North Kingstown	Boston Neck Rd from Unnamed Rd (180' south of Crowfield) to Barbers Heights Ave	Bike Lane
North Kingstown	Brown St from Main St to Phillips St/Boston Neck Rd	Bike Lane
North Kingstown	Narrow Ln from S Rd to Stony Ln	Bike Lane
North Kingstown	New Shared-use Path/Mancini Pl from Ten Rod Rd to Stony Ln	Shared Use Path
North Kingstown	Old Baptist Rd from Stony Ln to Ten Rod Rd	Bike Lane
North Kingstown	Phillips St from Boone St to Brown St	Bike Lane
North Kingstown	Phillips St from Tower Hill Rd to Boone	Bike Lane
North Kingstown	Post Rd from Devils Foot Rd/Newcomb Rd to Essex Rd	Bike Lane
North Kingstown	Post Rd from Essex Rd to Austin Rd	Bike Lane
North Kingstown	Post Rd/Tower Hill Rd from Newcomb Rd to Victory Hwy/Phillips St	Bike Lane
North Kingstown	Potential Path Connection/Prospect Ave/Updike Ave from Roberts Way to Boston Neck Rd	Shared Use Path
North Kingstown	Potowomut Rd from Old Forge Rd to Austin Rd	Bike Lane
North Kingstown	Roger Williams Way from 700' west of Commerce Park Rd to Ecclest On Ave	Separated Bike Path
North Kingstown	Rt 403 from Post Rd to 700' west of Commerce Park Rd	Shared Use Path
North Kingstown	Stony Ln from Narrow Ln to Huling Rd	Bike Lane
North Kingstown	Ten Rod Rd from S County Trail to Roberts Way	Bike Lane
North Kingstown	Ten Rod Rd/Victory Hwy from Roberts Way to Tower Hill Rd	Bike Lane
North Kingstown	Victory Hwy/Ten Rod Rd from Nooseneck Hill Rd to S County Trail	Bike Lane
North Kingstown	W Main St from Tower Hill Rd to Brown St	Bike Lane
North Kingstown	Wickham Rd/Lang Dr from Stony Ln to Victory Hwy	Bike Lane
North Proidence	Woony River Path New Bridge from Woonasquatucket Ave at Iris Ln to Lyman Ave at Springfield Ave	Shared Use Path
North Providence	Andover St from Smithfield Rd to Mineral Spring Ave	Bike Lane
North Providence	Charles St from Mineral Spring Ave to Toledo Ave	Bike Lane
North Providence	College Rd/ Sixth St from Hennessey Ave to Mt Pleasant Ave	Bike Lane
North Providence	Fruit Hill Ave from Hennessey Ave to Olney Ave	Bike Lane
North Providence	Fruit Hill Ave from Olney Ave to Smith St	Bike Lane
North Providence	Hennessey Ave/ Sixth St from Fruit Hill Ave to College Rd	Bike Lane
North Providence	Longue Vue Ave (northbound) from Smithfield Rd to Mineral Spring Ave	Bike Lane

Town	Description	Project Type
North Providence	Longue Vue Ave (southbound) from Smithfield Rd to Mineral Spring Ave	Bike Lane
North Providence	Lyman Ave from Woonasquatucket Ave to Fruit Hill Ave	Bike Lane
North Providence	Mineral Spring Ave from Andover St to Charles St	Bike Lane
North Providence	Mineral Spring Ave from Longue Vue Ave to Andover St	Bike Lane
North Providence	Smith St from George Waterman Rd to Admiral St	Bike Lane
North Providence	Smithfield Rd from Longue Vue Ave to Colonial Dr	Bike Lane
North Providence	Woonasquatucket Ave from Lyman Ave to Metcalf Ave	Bike Lane
North Smithfield	Path from MA state line to Pines Blvd	Shared Use Path
North Smithfield	Railroad Right of Way from Great Rd to Water St	Shared Use Path
North Smithfield	Railroad Right of Way from Victory Hwy to Great Rd	Shared Use Path
North Smithfield	Rt 146A from Warren Ave to S Main St	Bike Lane
North Smithfield	Rt 5/Central St from Victory Hwy to MA State Line	Bike Lane
North Smithfield	Smithfield Rd from S Main St to Park Ave	Bike Lane
North Smithfield	Victory Hwy from Inman Rd to N Smithfield Expy	Bike Lane
North Smithfield	Victory Hwy/Great Rd from N Smithfield Expy to Warren Ave	Bike Lane
Pascoag	Pascoag Main St/S Main St from 100' north of Elm St to Reservoir Rd	Bike Lane
Pawtucket	Alfred Stone Rd from Pleasant St to Blackstone Blvd	Bike Lane
Pawtucket	Armistive Blvd / Grove St from Spring St to South Bend St	Bike Lane
Pawtucket	Ashton St from Armistice Blvd to Division St	Bike Lane
Pawtucket	Barton St / Weeden St from Dexter St to Cobble Hill Rd	Bike Lane
Pawtucket	Barton St from Dexter St to High St	Bike Lane
Pawtucket	Beverage Hill Rd from School St to Prospect St	Bike Lane
Pawtucket	Branch Ave from Roosevelt Ave to Blackstone River Bikeway	Bike Lane
Pawtucket	Broad St from City Line to Exchange St	Bike Lane
Pawtucket	Broadway from Coyle Ave to Roosevelt Ave	Bike Lane
Pawtucket	Broadway from Exchange St to Roosevelt Ave	Bike Lane
Pawtucket	Central Ave from Cottage Ave to I-95	Bike Lane
Pawtucket	Central Ave from Dagget Ave to Newport Ave	Bike Lane
Pawtucket	Central Ave from I-95 to Front St	Bike Lane
Pawtucket	Central Ave from Mendon Rd to Railroad Tracks	Bike Lane
Pawtucket	Central Ave from Newport Ave to Mendon Rd	Bike Lane
Pawtucket	Central Ave from RR to Cottage Ave	Bike Lane
Pawtucket	Columbus Ave from Pond St to Newport Ave	Bike Lane
Pawtucket	Cottage St from Central Ave to Kenyon Ave	Bike Lane
Pawtucket	Daggett Ave from London Ave/10 Mile River Greenway to Armistice Blvd	Bike Lane
Pawtucket	East Ave from Grace St to Chace Ave	Bike Lane
Pawtucket	Ferris Ave from Ferris Ave to Newman Ave	Bike Lane
Pawtucket	Garden St from Church St to Marrin St	Bike Lane
Pawtucket	Garden St from Pawtucket Ave to Marrin St	Bike Lane
Pawtucket	George Bennett Hwy from Armistice Blvd to Roosevelt Ave	Bike Lane
Pawtucket	George St from Grace St to Church St	Bike Lane
Pawtucket	Goff Ave / Exchange St from Pine St to Denver St	Bike Lane
Pawtucket	Grace St / Division St from East Ave to Water St	Bike Lane
Pawtucket	Harrison St from Lonsdale Ave to George St	Bike Lane
Pawtucket	Hawes St from Barton St to Central St	Bike Lane
Pawtucket	Main St from Warren Ave to Chace Ave	Bike Lane
Pawtucket	Maryland Ave from School St to Prospect St	Bike Lane

Town	Description	Project Type
Pawtucket	Mineral Spring Ave from Charles St to George St	Bike Lane
Pawtucket	N Main St from Chace Ave to Pidge Ave	Separated Bike Path
Pawtucket	Newport Ave from Central Ave to City line	Bike Lane
Pawtucket	Newport Ave from State Border to Central Ave	Bike Lane
Pawtucket	Pidge St from East Ave to N Main St	Bike Lane
Pawtucket	Pine St from Pawtucket Ave to Goff Ave	Bike Lane
Pawtucket	Pleasant St from Alfred Stone Rd to Bowles Street	Bike Lane
Pawtucket	Pleasant St from Tower St to Alfred Stone Rd	Bike Lane
Pawtucket	Pond St from S Bend St to School St	Bike Lane
Pawtucket	Power Rd from Weeden St to Smithfield Ave	Bike Lane
Pawtucket	Prospect St / Division St from Water St to Meadow St	Bike Lane
Pawtucket	Ridge St from Pleasant St to East Ave	Bike Lane
Pawtucket	Roosevelt Ave from Broadway to Division St	Bike Lane
Pawtucket	Roosevelt Ave from East St to Leather Ave	Bike Lane
Pawtucket	Roosevelt Ave from Leather Ave to Broadway	Shared Use Path
Pawtucket	Rt 1 from Garden St to Rochambeau Ave	Bike Lane
Pawtucket	School St from Pond St to Beverage Hill Rd	Bike Lane
Pawtucket	Spring St from Pine St to Denver St	Bike Lane
Pawtucket	Water St from Division St to Pond St	Bike Lane
Pawtucket	West Ave from Jefferson Ave to Main St	Bike Lane
Pawtucket	West Ave from Pearl St to Jefferson Ave	Bike Lane
Pawtucket	Wolf School driveway from Ferris Ave to 10 Mile River Greenway	Bike Lane
Portsmouth	Alexander Rd from Railroad Right of Way to Stringham Rd	Bike Lane
Portsmouth	Anthony Rd from Boyds Ln to Sakonnet River Bridge	Bike Lane
Portsmouth	Boyds Ln from Bristol Ferry Rd to E Main Rd	Bike Lane
Portsmouth	Boyds Ln from E Main St to Park Ave	Bike Lane
Portsmouth	Bristol Ferry Rd/Turnpike Ave from Mt Hope Bridge/Boyds Ln to E Main Rd	Bike Lane
Portsmouth	E Main Rd from Boyd Ln to Turnpike Ave	Bike Lane
Portsmouth	E Main Rd from Middletown Town Line to Hedly St	Shared Use Path
Portsmouth	East Main Rd from Turnpike Ave to Hedly St	Bike Lane
Portsmouth	Future Path from Mt Hope Bridge to Anthony Rd	Shared Use Path
Portsmouth	Hedly St from W Main Rd to E Main Rd	Bike Lane
Portsmouth	Hummock Point Rd/Hummocks Ave/Point Rd from Fall River Expy to Park Ave/Teddys Beach	Bike Lane
Portsmouth	Melville Connector from West Main Rd to Burma Rd	Shared Use Path
Portsmouth	Mt Hope Bridge from Metacom Ave to Boyds Ln	Shared Use Path
Portsmouth	Park Ave from Boyds Ln to Point Rd/Teddys Beach	Bike Lane
Portsmouth	Railroad Right of Way from Mt Hope Bridge to US Naval Center driveway	Shared Use Path
Portsmouth	Read St from Chase Ln to Lexington St	Bike Lane
Portsmouth	Stringham Rd from Alexander Rd to W Main Rd	Bike Lane
Portsmouth	W Main Rd from Hedly St to Stringham Rd	Shared Use Path
Portsmouth	W Main St from Bristol Ferry Rd/Turnpike Ave to Hedly St	Bike Lane
Providence	Academy Ave from Smith St to Atwells Ave	Bike Lane
Providence	Admiral St from Colonial Dr to Huxley Ave	Bike Lane
Providence	Alfred Stone Rd from Blackstone Blvd to Pleasant St	Bike Lane
Providence	Allens Ave from Eddy St to Ocean Ave	Separated Bike Path
Providence	Angell St from Benefit St to Prospect St	Separated Bike Path

Town	Description	Project Type
Providence	Angell St from Brown St to Hope St	Separated Bike Path
Providence	Angell St from Governor to Paterson St	Separated Bike Path
Providence	Angell St from Hope St to Governor St	Separated Bike Path
Providence	Angell St from Prospect St to Brown St	Separated Bike Path
Providence	Ashburton St from Charles St to Charles St	Separated Bike Path
Providence	Atwells Ave from Sisson St to Knight St	Bike Lane
Providence	Atwells Ave from Tuxedo Ave to Knight St	Bike Lane
Providence	Benefit St from Burrs Ln to Wickenden St	Bike Lane
Providence	Blackstone Blvd from Hope St to Butler Ave	Separated Bike Path
Providence	Blackstone St from Culver St to Allens Ave	Bike Lane
Providence	Branch Ave from Hawkins St to I-95 on/off ramps	Bike Lane
Providence	Broad St from Eddy St to Southwater St	Bike Lane
Providence	Broad St from Elmwood Ave/Bridgham St to I-95	Bike Lane
Providence	Broad St from I-95 to Empire St/Chestnut St	Bike Lane
Providence	Broad St/Weybosset St/Westminster St from Memorial Blvd to Chestnut St	Bike Lane
Providence	Broadway from Dean St to I-95	Bike Lane
Providence	Broadway/Sabin St/Exchange Ter from Exchange St to Dave Gavitt Way	Separated Bike Path
Providence	Brook St from Lloyd Ave to Waterman St	Separated Bike Path
Providence	Bucklin St from Warren St to Carter St	Bike Lane
Providence	Butler Ave from Blackstone Blvd to Old Bridge Path	Bike Lane
Providence	Carter St from Huntington Ave to Elmwood Ave	Bike Lane
Providence	Chalkstone Ave from Oakland Ave to Smith St	Bike Lane
Providence	Chalkstone Ave from Rosebank Ave to Raymond St	Shared Use Path
Providence	Chalkstone Ave from Smith St to Douglas Ave	Bike Lane
Providence	Charles St from Leo Ave to Smith St	Bike Lane
Providence	Charles St from Silver Spring St to Rte 146	Bike Lane
Providence	Clifford St from Claverick St to W Franklin St	Bike Lane
Providence	Clifford St from Richmond St to Chestnut St	Bike Lane
Providence	Convent St from Oakland Ave to Rosebank Ave	Bike Lane
Providence	Corliss St from Charles St to W River St	Separated Bike Path
Providence	Cranston St from Huntington Ave to Westminster St	Bike Lane
Providence	Custom House St/Memorial Blvd/S Water St from Weybosset St to Providence River Greenway	Bike Lane
Providence	Dean St from Atwells Ave to Broadway	Bike Lane
Providence	Dean St from Promenade St to Atwells Ave	Separated Bike Path
Providence	Delaine St from Valley St to Manton Ave	Bike Lane
Providence	Dexter St from Cranston St to Warren St	Bike Lane
Providence	Dexter St from Westminster St to Cranston St	Bike Lane
Providence	Douglas Ave from Admiral St to Eaton St	Bike Lane
Providence	Douglas Ave from Candace St to Chalkstone Ave	Bike Lane
Providence	Douglas Ave from Chad Brown St to Candace St	Bike Lane
Providence	Douglas Ave from Chalkstone Ave to North Davis St	Bike Lane
Providence	Douglas Ave from Eaton St to Chad Brown St	Bike Lane
Providence	Dudley St from Friendship St to Eddy St	Bike Lane
Providence	Dyer St / Memorial Blvd from Custom House St to Clifford St	Separated Bike Path
Providence	Elmwood Ave from Bridgham St to Park Ave	Bike Lane
Providence	Exchange St from Park Row to Washington St	Separated Bike Path
Providence	FC Greene Memorial Blvd from Elmwood Ave to Maple Ave	Bike Lane

Town	Description	Project Type
Providence	FC Greene Memorial Blvd from Park Ave to FC Greene Memorial Blvd	Bike Lane
Providence	Fountain St from Francis St to Union St	Bike Lane
Providence	Francis St from Gaspee St to Exchange Ter	Bike Lane
Providence	Francis St from Smith St to Gaspee St	Bike Lane
Providence	Francis St/Dorrance St from W Exchange St/Exchange Ter to Weybosset St	Bike Lane
Providence	Galileo Ave/Standish Ave/Rialto St from Chalkstone Ave to Mt Pleasant Ave	Bike Lane
Providence	Gaspee St from Francis St to Smith St	Bike Lane
Providence	Glenbridge Ave from Grimwood St to Hartford Ave	Bike Lane
Providence	Globe St from Hospital St to Eddy St	Bike Lane
Providence	Hartford Ave from Killingly St to Oleyville Sq	Bike Lane
Providence	Hawkins St from Branch Ave to Cornwall St	Bike Lane
Providence	Hawkins St from Charles St to Branch Ave	Bike Lane
Providence	Hawkins St from Cornwall St to Admiral St	Bike Lane
Providence	Henderson Bridge from Waterfront Dr to E River St	Separated Bike Path
Providence	Henderson Expy from E River St to Waterman St	Separated Bike Path
Providence	High Service Ave from Smithfield Rd to Smith St	Bike Lane
Providence	Hope St from Chace Ave to Olney St	Bike Lane
Providence	Hope St from Olney St to Wickenden St	Bike Lane
Providence	Hospital St from Point St to Globe St	Bike Lane
Providence	Huxley Ave / Eaton St from Douglas Ave to Smith St	Bike Lane
Providence	Hwy 1/Elmwood Ave from Post Rd to Park Ave	Bike Lane
Providence	Knight St from Atwells Ave to Broadway	Separated Bike Path
Providence	Knight St from Broadway to Westminster St	Bike Lane
Providence	Linden Ave from Elmwood Ave to Pine Hill Ave	Bike Lane
Providence	Lloyd Ave from Brook St to Blackstone Blvd	Separated Bike Path
Providence	Magnolia St from Pilsudski St to Webster Ave	Bike Lane
Providence	Manton Ave/Chalkstone Ave from Trever Ave/Woonasquatucket River Greenway to Rosebank Ave	Bike Lane
Providence	Manton St from Delaine to Aleppo St	Bike Lane
Providence	Manton St from Sansouci Dr to Delaine	Bike Lane
Providence	Meeting St from N Main St to Benefit St	Separated Bike Path
Providence	Melrose St from Potters Ave to Cadillac Dr	Bike Lane
Providence	Mill St from Hwy 1 to N Main St	Bike Lane
Providence	Montgomery Ave from Broad St to Narragansett Blvd	Bike Lane
Providence	Montgomery Ave from FC Greene Memorial Blvd to Broad St	Bike Lane
Providence	Mt Pleasant Ave from Rialto st to Smith St	Separated Bike Path
Providence	N Main St from 7th St to Doyle	Separated Bike Path
Providence	N Main St from Olney St to Mill St	Bike Lane
Providence	N Main St from Smithfield Ave to Chace Ave	Bike Lane
Providence	North Ave from Hope St to Blackstone Blvd	Bike Lane
Providence	Oakland Ave from Eaton St to Smith St	Bike Lane
Providence	Orms St from I-95 to Charles St	Bike Lane
Providence	Park Row West from Canal St to Francis St	Bike Lane
Providence	Park St from Orms St to Smith St	Bike Lane
Providence	Peck St from Weybosset St to Dyer St	Separated Bike Path
Providence	Plainfield St/Plainfield Pike from Independence Way to Hartford Ave	Bike Lane

Town	Description	Project Type
Providence	Pleasant Valley Pkwy from Academy Ave to Justice St	Bike Lane
Providence	Point St from Chestunut St to Eddy St	Bike Lane
Providence	Point St from Hospital St to Chestnut St	Bike Lane
Providence	Pontiac St from Elmwood Ave to Park Ave	Bike Lane
Providence	Potential Path Connection from East River St to Pitman St	Shared Use Path
Providence	Potential Path Connection from Sansouci Dr to Aleppo St	Shared Use Path
Providence	Potters Ave from Broad St to Bucklin St	Bike Lane
Providence	Power St from Benefit St to Blackstone Bikeway	Bike Lane
Providence	Prarie Ave from Dudley St to Public St	Bike Lane
Providence	Prarie Ave from Friendship St to Broad St	Bike Lane
Providence	Pulsudski St from Troy St to Magnolia St	Bike Lane
Providence	Railroad St from Park Row W to Gaspee St	Separated Bike Path
Providence	Randall St from Charles St to N Main St	Separated Bike Path
Providence	River Ave from Smith St to Valley St	Bike Lane
Providence	River Ave from Valley St to Woonasquatucket Bike Path	Shared Use Path
Providence	Rosebank Ave from Pleasant Valley Pkwy to Chalkstone Ave	Bike Lane
Providence	Rosebank St from Pleasant Vally Pkwy to Chalkstone Ave	Bike Lane
Providence	Service Rd from Clifford St to Broadway	Separated Bike Path
Providence	Ship St from Dyer St to Dyer St	Shared Use Path
Providence	Smith St from Gaspee St to Canal St	Bike Lane
Providence	Smith St from Holden St to Park St	Bike Lane
Providence	Smith St from Olney Ave to Academy Ave	Bike Lane
Providence	Smith St from Olney Ave to Canal St	Bike Lane
Providence	Smith St from Park St to Gaspee St	Bike Lane
Providence	Smithfield Ave from Power Rd to N Main St	Bike Lane
Providence	Sonoma Ct from Sonoma Ct to Sancouci Dr	Shared Use Path
Providence	South Main St/North Main St from Transit St to Mill St	Bike Lane
Providence	Steeple St / Thomas St from Exchange Ter to Angell St	Separated Bike Path
Providence	Tobey St from Broadway to Westminster St	Bike Lane
Providence	Toledo Ave-Leo Ave from Charles St to Power Rd	Bike Lane
Providence	Troy St from Westminster Ave to US-6	Bike Lane
Providence	Valley St from Atwells Ave to Broadway	Bike Lane
Providence	Vineyard St from Potters Ave to Carter St	Bike Lane
Providence	W River St from Charles St to Corliss St	Separated Bike Path
Providence	Washington St from Dean St to Winter St	Bike Lane
Providence	Washington St from Empire St to Dean St	Bike Lane
Providence	Washington St from Empire St to Exchange St	Bike Lane
Providence	Washington St from Exchange St to Waterman St	Separated Bike Path
Providence	Waterman St from Benefit St to Prospect St	Separated Bike Path
Providence	Waterman St from Governor St to Butler Ave	Separated Bike Path
Providence	Waterman St from Prospect St to Governor St	Separated Bike Path
Providence	Webster Ave from Cranston St to Plainfield St	Bike Lane
Providence	Westminster St from Broadway to Manton Ave	Bike Lane
Providence	Westminster St from Rt 10 Ramp to Troy St	Bike Lane
Providence	Westminster St from Tobey St to Service Rd	Separated Bike Path
Providence	Westminster St from Troy St to Tobey St	Bike Lane
Providence	Wickenden St from S Main St to Gano St	Bike Lane
Providence	Winter St from Westminster St to Washington St	Bike Lane
Providence	Woonasquatucket River Path from Atwells Ave to Amherst St	Shared Use Path

Town	Description	Project Type
Richmond	Carolina Nooseneck Rd from New London Turnpike to Kingstown Rd	Bike Lane
Richmond	Main St/Kingstown Rd/Usquepaugh Rd from South County Trail to Mechanic St	Bike Lane
Richmond	Richmond Townhouse Rd/Carolina Back Rd from Kingstown Rd to Alton Carolina Rd	Bike Lane
Richmond	Switch Rd/Mechanic St from Highview Ave to Carolina-Alton Rd/Church St	Bike Lane
Scituate	Colvin St from Jackson Flat Rd to Hill St	Bike Lane
Scituate	E Rd/Ruta de Rhode Island from Plainfield Pike to Scituate Ave	Bike Lane
Scituate	Jackson Flat Rd from Main St/Hope St to Colvin St	Bike Lane
Scituate	Main St/Hope Ave from N Rd to Jackson Flat Rd	Bike Lane
Scituate	North Rd from Scituate Ave to Main St/Hope Ave	Shared Use Path
Scituate	Old Plainfield Pike from Victory Hwy to Tunk Hill Rd	Bike Lane
Scituate	Smith Ave/Ruta de Rhode Island from Terrace Dr to Putnam Pike	Bike Lane
Scituate	Smith Ave/Ruta de Rhode Island from W Greenville Rd to Terrace Dr	Bike Lane
Scituate	Tunk Hill Rd/Scituate Ave from Plainfield Pike to East Rd	Shared Use Path
Scituate	Victory Hwy/Putnam Pike/Chopmist Hill Rd from Money Hill Rd to Plainfield Pike	Shared Use Path
Scituate	W Greenville Rd/Ruta de Rhode Island from Danielson Pike to Plainfiled Pike	Bike Lane
Scituate	W Greenville Rd/Ruta de Rhode Island from Hartford Pike to Danielson Pike	Bike Lane
Scituate	W Greenville Rd/Ruta de Rhode Island from Snake Hill Rd to Hartfield Pike	Bike Lane
Smithfield	Capron Rd from Farnum Pike to Stillwater Rd	Bike Lane
Smithfield	Cedar Swamp Rd from Pleasant View Ave to Putnam Pike	Bike Lane
Smithfield	Colwell Rd from Kristen Dr to Mann School Rd	Bike Lane
Smithfield	Cross County Trail from Farnum Pike to Farnum Pike	Shared Use Path
Smithfield	Dean Ave from Warren St to Putnam Ave	Bike Lane
Smithfield	Evans Rd from Long Entry Rd to Tarklin Rd	Bike Lane
Smithfield	I-295 from Railroad Right of Way to Blackstone River Bikeway	Shared Use Path
Smithfield	Kristen Dr from Mapleville Rd to Colwell Rd	Bike Lane
Smithfield	Limerock Rd from Ridge Rd to Jenckes Hill Rd	Bike Lane
Smithfield	Log Rd from Mann School Rd to Pleasant View Ave	Bike Lane
Smithfield	Long Entry Rd from Cooper Rd to Evans Rd	Bike Lane
Smithfield	Mann School Rd from Colwell Rd to Log Rd	Bike Lane
Smithfield	Mapleville Rd from Tarklin Rd to Kristen Dr	Bike Lane
Smithfield	Mountaindale Rd from Walter Carey Rd to Sebille Rd	Bike Lane
Smithfield	Pleasant View Ave from Log Rd to Farnum Pike	Bike Lane
Smithfield	Pleasant View Ave from Tunmore Rd to Log Rd	Bike Lane
Smithfield	Pleasant View Ave from Tunmore Rd to Putnam Pike	Bike Lane
Smithfield	Putnam Pike from 2000' north of Chestnut Oak Rd to Primrose Ln	Bike Lane
Smithfield	Putnam Pike from Dean Ave to George Waterman Rd	Bike Lane
Smithfield	Putnam Pike from Pleasant View Ave to Cedar Swamp Rd/Sanderson Rd	Bike Lane
Smithfield	Putnam Pike from Primrose Ln to Pleasant View Ave	Bike Lane

Town	Description	Project Type
Smithfield	Railroad Right of Way from Aspen Ln to Warren St	Shared Use Path
Smithfield	Sebille Rd/Dean Ave from Mountaindale Rd to Oliver St	Bike Lane
Smithfield	Stillwater Rd from Capron Rd to Friendship Ln/Ridge Rd	Bike Lane
Smithfield	Tunmore Rd from Pleasant View Ave to Cedar Swamp Rd	Bike Lane
Smithfield	Walter Carey Rd from Mountaindale Rd to Cedar Swamp Rd	Bike Lane
South Kingstown	Bridgetown Rd from Tower Hill Rd to Narragansett Town Line	Bike Lane
South Kingstown	Church St from Railroad St/William C ONeill Bike Path to Kingstown Rd	Bike Lane
South Kingstown	Commodore Perry Hwy from Upper Farm Way to Post Rd	Shared Use Path
South Kingstown	Flagg Rd/Plains Rd from Kingstown Rd to Old North Rd	Bike Lane
South Kingstown	Green Hill Beach Rd from Matunuck School House Rd to Dead end	Bike Lane
South Kingstown	Kingstown Rd from Blackbird Rd to S Rd	Bike Lane
South Kingstown	Kingstown Rd from Driveay (1600' east of South County Trail) to Blackbird Rd	Bike Lane
South Kingstown	Kingstown Rd from Mooresfield Rd to South County Bike Path	Bike Lane
South Kingstown	Kingstown Rd from Old Mountain Rd to Church St	Bike Lane
South Kingstown	Kingstown Rd/Mooresfield Rd from S Rd to Tower Hill Rd	Bike Lane
South Kingstown	Macarthur Blvd from Kingstown Rd to William C O'Neill Bike Path	Bike Lane
South Kingstown	Main St from S Rd to ONeill Bike Path (100' east of Robinson St)	Bike Lane
South Kingstown	Matunuck Beach Rd from Matunuck School House Rd to Peninsula Rd	Bike Lane
South Kingstown	Matunuck Beach Rd from Post Rd to Matunuck School House Rd	Bike Lane
South Kingstown	Matunuck School House Rd from Old Post Rd to Matunuck Beach Rd	Bike Lane
South Kingstown	Ministerial Rd from Kingstown Rd to Commodore Perry Hwy	Bike Lane
South Kingstown	Old Mountain Rd from Kingstown Rd to Blooming Pl	Bike Lane
South Kingstown	Old Post Rd/Post Rd from Matunuck School House Rd to Highway 1	Bike Lane
South Kingstown	Post Rd from Commodore Perry Hwy (near Browns Brook) to Commodore Perry Hwy (near White Pond Rd)	Bike Lane
South Kingstown	Post Rd from Highway 1 (W) to Highway 1 (East)	Bike Lane
South Kingstown	Post Rd from Main St to Commodore Perry Hwy	Bike Lane
South Kingstown	Potential Path Connection from Blackbird Rd to William C O'Neill bike Path	Shared Use Path
South Kingstown	Railroad St from Kingstown Rd to Church St	Bike Lane
South Kingstown	Succotash Rd from Commodore Perry Hwy to Succotash Marsh State Management Area	Bike Lane
South Kingstown	Upper College Rd from Flagg Rd to Kingstown Rd	Bike Lane
Tiverton	East Rd from Main Rd to Crandall Rd	Bike Lane
Tiverton	Main Rd from State Ave to Quaker Ave	Bike Lane
Tiverton	Main St from Central Ave to East Rd	Bike Lane
Tiverton	Railroad Right of Way from State Border/State Ave to Evans Ave	Shared Use Path
Warren	Child St from Main St to Metacom Ave	Bike Lane
Warren	Child St from Metacom Ave to Long Ln	Bike Lane
Warren	Franklin St from East Bay Bike Path to Metacom Ave	Bike Lane

Town	Description	Project Type
Warren	Long Ln from Schoolhouse Rd to Existing Path (2000' s. of Child St)	Bike Lane
Warren	Metacom Ave from Child St to Jameson Dr	Bike Lane
Warren	Old Railroad Corridor from Metacom Ave to Warren Bike Path	Shared Use Path
Warwick	Buttonwoods Ave from Main Ave to W Shore Rd	Bike Lane
Warwick	Centerville Rd from Toll Gate Rd to Greenwich Ave	Bike Lane
Warwick	Centerville Rd/Veterans Memorial Dr from Post Rd to Toll Gate Rd	Bike Lane
Warwick	Commonwealth Ave from Unnamed Rd (600' north of Toll Gate Rd) to Toll Gate Rd	Bike Lane
Warwick	Inman Ave from Parkway Dr to Main Ave	Bike Lane
Warwick	Inman Ave from Strawberry Field Rd to Parkway Dr	Bike Lane
Warwick	Jefferson Blvd from Kilvert St/Coronado Rd to Main Ave	Bike Lane
Warwick	Main Ave from Post Rd to Warwick Industrial Dr	Bike Lane
Warwick	Main Ave from Warwick Industrial Dr to Buttonwoods Ave	Bike Lane
Warwick	Oakland Beach Ave from Warwick Ave to W Shore Rd	Bike Lane
Warwick	Parkway Dr from Inman Ave (west) to Inman Ave (east)	Bike Lane
Warwick	Post Rd from Centerville Rd to Matteson Ave	Bike Lane
Warwick	Post Rd from Greenwich Ave to W Shore Rd	Bike Lane
Warwick	Post Rd from Main Ave to Veterans Memorial Dr/Post Rd Ext	Bike Lane
Warwick	Post Rd from Matteson Ave to Division St	Bike Lane
Warwick	Post Rd from TF Green Aiport Connector Rd to Hwy 1/Elmwood Ave	Shared Use Path
Warwick	Post Rd from Warwick Ave to Narragansett Pkwy	Bike Lane
Warwick	Rocky Point Ave from Warwick Neck Ave to Palmer Ave	Bike Lane
Warwick	Rt 117 from Airport Rd to Rte 117	Bike Lane
Warwick	Rt 117 from Broad St to Rte 117	Bike Lane
Warwick	Strawberry Field Rd from Inman Ave to Sandy Ln	Bike Lane
Warwick	TF Green Airport Connector Rd from Jefferson Blvd to Post Rd	Shared Use Path
Warwick	Toll Gate Rd from Providence St to Centerville Rd	Bike Lane
Warwick	Unnamed Rd from East Ave to Unnamed Rd (600' north of Toll Gate Rd)	Bike Lane
Warwick	W Shore Rd from Economy Ave to Draper Ave	Bike Lane
Warwick	W Shore Rd from Post Rd to Buttonwoods Ave	Bike Lane
Warwick	W Shore Rd from Sandy Ln to Draper Ave	Bike Lane
Warwick	W Shore Rd from Warwick Ave to Economy Ave	Bike Lane
Warwick	Warwick Neck Ave from Rocky Point Ave to Warwick Ave south terminus	Bike Lane
Warwick	Warwick Neck Ave from W Shore Rd to Rocky Point Ave	Bike Lane
West Greenwich	Division Rd from Nooseneck Hill Rd to Hopkins Hill Rd	Bike Lane
West Greenwich	Hopkins Hill Rd from Mishnock Rd to Division St	Bike Lane
West Greenwich	Mishnock Rd from Nooseneck Hill Rd to Hopkins Hill Rd	Bike Lane
West Greenwich	Nooseneck Hill Rd from Mishnock Rd to Division Rd	Bike Lane
West Greenwich	Victory Hwy from Barnett Ln to Nooseneck Hill Rd	Bike Lane
West Warwick	Center of New England Blvd from Dante Blvd to New London Turnpike	Separated Bike Path
West Warwick	Pawtuxet River Path from Hill St to Washington Secondary Trail	Shared Use Path
Westerly	Atlantic Ave from Winnapaug Rd to Weekapaug Ave	Bike Lane
Westerly	Beach St from Elm St to Sosoa Ln	Bike Lane
Westerly	Bradford Rd from E Capalbo Dr to Nina Dr	Bike Lane

Town	Description	Project Type
Westerly	Broad St from High St to Grove Ave	Bike Lane
Westerly	Canal St from High St to Railroad Ave	Bike Lane
Westerly	Elm St from Broad St to Beach St	Bike Lane
Westerly	Franklin St from East Ave to Wells St	Bike Lane
Westerly	Franklin St from Wells St to Airport Rd/Veterans Way	Bike Lane
Westerly	Granite St from Grove Ave to Tower St	Bike Lane
Westerly	Granite St from Tower St to East Ave	Bike Lane
Westerly	High St from Canal St to Broad St	Bike Lane
Westerly	Langworthy Rd from Post Rd to Shore Rd	Bike Lane
Westerly	Ninigret Ave from Watch Hill Rd to Ocean View Hwy	Bike Lane
Westerly	Oak St from High St to Verterans Way	Bike Lane
Westerly	Ocean View Hwy from Shore Rd to Ninigret Ave	Bike Lane
Westerly	Post Rd from Airport Rd/Veterans Way to Dunns Corner Rd/Langworthy Rd	Separated Bike Path
Westerly	Post Rd from Langworthy Rd to Shore Rd	Shared Use Path
Westerly	Post Rd from Shore Rd to Charlestown Town Border	Shared Use Path
Westerly	Railroad Ave from Canal St to High St	Bike Lane
Westerly	Shore Rd from Langworthy Rd/Weekapaug Rd to Post Rd	Bike Lane
Westerly	Shore Rd from Watch Hill Rd to Winnapaug Rd	Bike Lane
Westerly	Tower St from Granite St to Oak St	Bike Lane
Westerly	Watch Hill Rd from Shore Rd to Ninigret Ave	Bike Lane
Westerly	Watch Hill Rd from Sosoa Ln to Shore Rd	Bike Lane
Westerly	Wauwinnet Ave from Ninigret Ave to Dead end	Bike Lane
Westerly	Weekapaug Rd from Shore Rd to Atlantic Ave	Bike Lane
Westerly	Wells St from Beach St to Franklin St	Bike Lane
Westerly	Winnapaug Rd from Shore Rd to Airport Rd	Bike Lane
Westerly	Winnapaug Rd from Shore Rd to Atlantic Ave	Bike Lane
Westerly	Winnapaug Rd/Airport Rd from Watch Hill Rd to Franklin St	Bike Lane
Woonsocket	Cass Ave from Cumberland St to Mendon Rd	Bike Lane
Woonsocket	Clinton St from Court St to Cumberland St	Bike Lane
Woonsocket	Court St from Main St/Clinton St to Front St	Bike Lane
Woonsocket	Cumberland Hill Rd from Hamlet Ave to Mendon Rd	Bike Lane
Woonsocket	Cumberland St from Social St to Hamlet Ave	Bike Lane
Woonsocket	Diamond Hill Rd from Social St to Pine Swamp Rd/Bound Rd	Bike Lane
Woonsocket	Greene St from Bernon St to Hamlet Ave	Bike Lane
Woonsocket	Hamlet Ave from Front St to Cumberland St	Bike Lane
Woonsocket	Main St from Court St to Social St	Bike Lane
Woonsocket	Mendon Rd from Cumberland Hill Rd to Diamond Hill Rd	Bike Lane
Woonsocket	Park Ave from Bernon St to Hamlet Ave	Bike Lane
Woonsocket	Park Ave from Smithfield Rd to Bernon St	Bike Lane
Woonsocket	Pine Swamp Rd from Diamond Hill Rd/Bound Rd to Diamond Hill Rd	Bike Lane
Woonsocket	Privilege St from Winter St to Social St	Bike Lane
Woonsocket	S Main St from River St to Smithfield Rd	Bike Lane
Woonsocket	Social St from Main St/ Blackstone St to Dimaond Hill Rd	Bike Lane
Woonsocket	Willow St / Greene St / Bernon St from Blackstone River Bikeway to Market Square	Bike Lane
Woonsocket	Winter St from Harris Ave to Privilege St	Bike Lane