State Guide Plan Element 611
Report Number 123

MOVING FORWARD RI 2040

LONG RANGE TRANSPORTATION PLAN

METROPOLITAN TRANSPORTATION PLAN

State of Rhode Island
Division of Planning

December 2020

www.planRI.com

Gina Raimondo
Governor

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State of Rhode Island
Department of Administration
Division of Statewide Planning

Letter From the Associate Director, Division of Statewide Planning

A plan without data is a guess, wayfinding in the dark without a map. Even with the best data, some horizons remain distant and some outcomes unpredictable. Developing a Long Range Transportation Plan that lays out a route for an entire state is not easy under the best of circumstances. Despite all of the obstacles, Moving Forward 2040 is a departure from the LRTPs of the past for three primary reasons: 1) it is data-driven and goals-oriented; 2) the goals are SMART—Specific, Measurable, Achievable, Relevant, and Time-Based; and 3) it incorporates a Bicycle Mobility Plan and the first-of-its-kind Transit Master Plan. The overarching changes that have steered the LRTP development have come from a building and strengthening of relationships in the transportation community, with both public and private partners, and a commitment to transparency. With that in mind, we see this LRTP as a foundation on which to build the transportation future of Rhode Island.

Sincerely,

Meredith Brady
Associate Director for Planning
www.planning.ri.gov

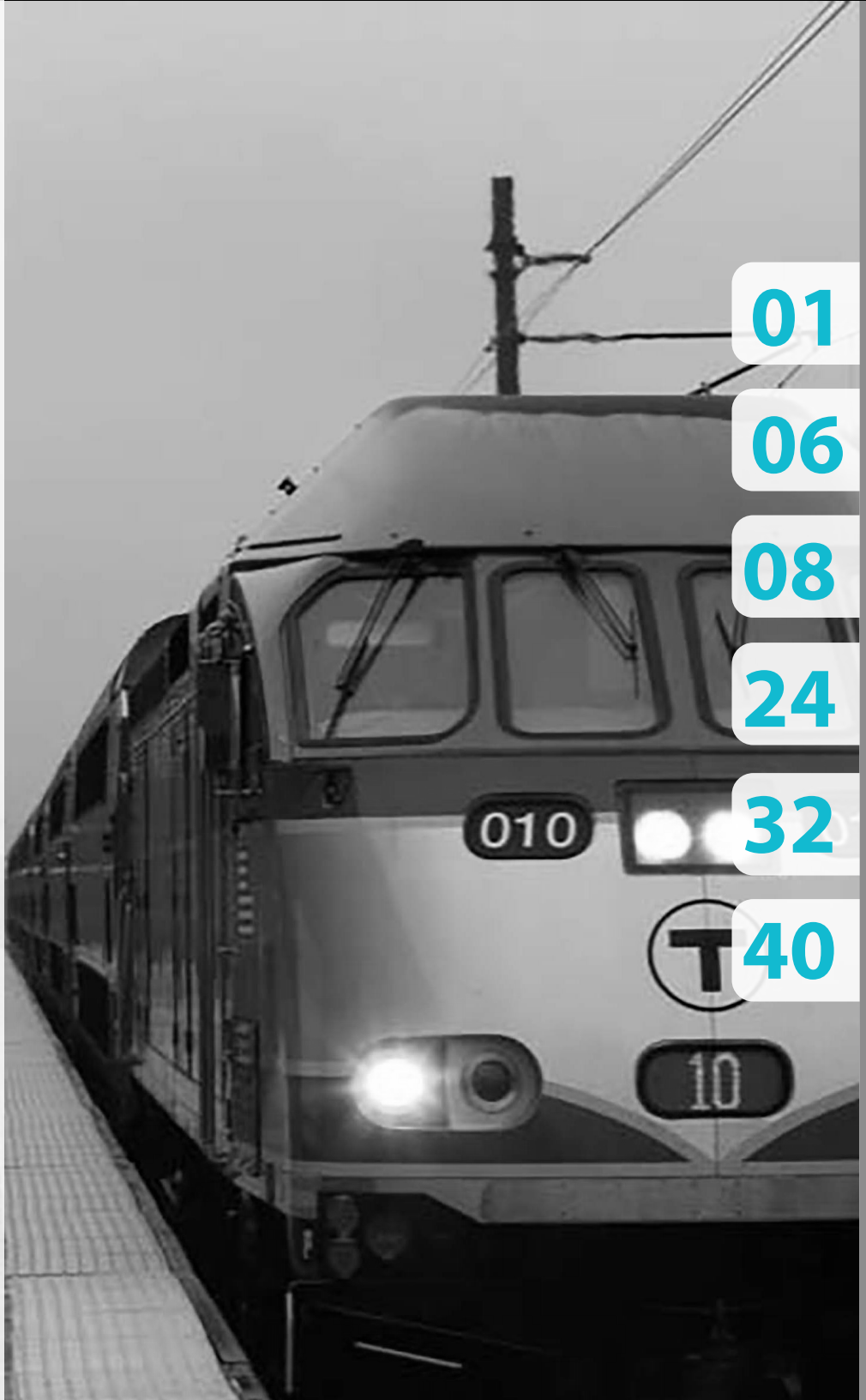

TABLE OF CONTENTS

This LRTP was prepared amidst the COVID-19 pandemic. While the immediate effects of COVID-19 on the State's transportation system have been significant, at the time of the release of this plan in late 2020, the long-term effects are unknown and speculative at best. These effects include changes in congestion, travel patterns, decreased use of public transit and potential limited state funding such as tolling and gas tax revenues.

Supporting Plans and References

A. Bicycle Mobility Plan (2020) http://www.planri.com/documents.asp

B. Transit Master Plan (2020) http://www.planri.com/documents.asp

C. Congestion Management Process & Plan (2020) http://www.planri.com/documents.asp

D. State Rail Plan (2014) http://www.planning.ri.gov/publications/technical-papers.php

E. 'State Rail Plan Supplement (2020) http://www.planri.com/documents.asp

F. Rhode Island Economic Development Plan (2014) http://www.planning.ri.gov/publications/technical-papers.php

G. Strategic Highway Safety Plan (2017) http://www.dot.ri.gov/documents/community/safety/Strategic_Highway_Safety_Plan.pdf

H. Freight and Goods Movement Plan (2017) http://www.planning.ri.gov/documents/trans/freight/freight-plan.pdf

I. Transportation Asset Management Plan (2019) http://www.dot.ri.gov/documents/RhodeWorks/RIDOT_TAMP_2019.pdf

J. Highway Safety Plan (2019) http://www.dot.ri.gov/documents/community/safety/Highway_Safety_Performance_Plan.pdf

K. Human Services Transportation Coordinated Plan (2018) https://www.ripta.com/projects/ri-coordinated-plan/

L. State Guide Plan http://www.planning.ri.gov/publications/state-guide-plan.php

M. State Transportation Improvement Program (STIP) http://www.planning.ri.gov/planning-areas/transportation/tip.php

N. Air Quality and Transportation Conformity Report (2019) http://www.planri.com/documents.asp

Appendices

A. Transportation 2037 System Performance Report

B. Compendium of Plans Review

C. Baseline Infrastructure & System Performance Report

D. Trends Report

E. Pool of Projects

F. Revenue Projections Report

G. Performance Measures and Target Setting Report

H. Public Participation Plan

I. Stakeholder and Public Participation Summary

J. Environmental Analysis and Consultation

K. Social Equity: Title VI and Environmental Justice Analysis

L. Greenhouse Gas Legislation

M. 20 Year Transit Investment Scenario Report

N. Air Quality Conformity Report

O. Regionally Significant Projects and Travel Demand Model Results

P. Planning Framework

Q. State Rail Plan Supplement (2020)

R. Fiscal Constraint Table

1 Introduction

RHODE ISLAND DIVISION OF PLANNING

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Division of Statewide Planning

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The 2040 Rhode Island Long Range Transportation Plan and Metropolitan Transportation Plan establish a long range course for investing in the State's transportation system that will help ensure Rhode Island remains a great place to live, work, and do business.

This Long Range Transportation Plan (LRTP or Plan) examines the State's most critical transportation needs and challenges, provides a framework for statewide goals and objectives, and identifies strategies to help Rhode Island facilitate the efficient movement of people and goods and promote economic development through transportation investments. Throughout this document the use of the term "Plan" or "LRTP" references both plans included in this report—the LRTP and Metropolitan Transportation Plan (MTP).

The Division of Statewide Planning (RIDSP) updates the LRTP every five years, and the vision for this plan integrates the strategic direction of supporting modal plans that are updated at varying intervals. Supporting modal plans such as the Asset Management Plan, Bicycle Mobility Plan, and Strategic Highway Safety Plan are updated by the Department of Transportation (RIDOT). The Rhode Island Public Transit Authority (RIPTA) manages the preparation of the Transit Master Plan and RIDSP coordinates planning efforts behind the Congestion Management Process, Freight and Goods Movement Plan, State Rail Plan and State Guide Plan elements.

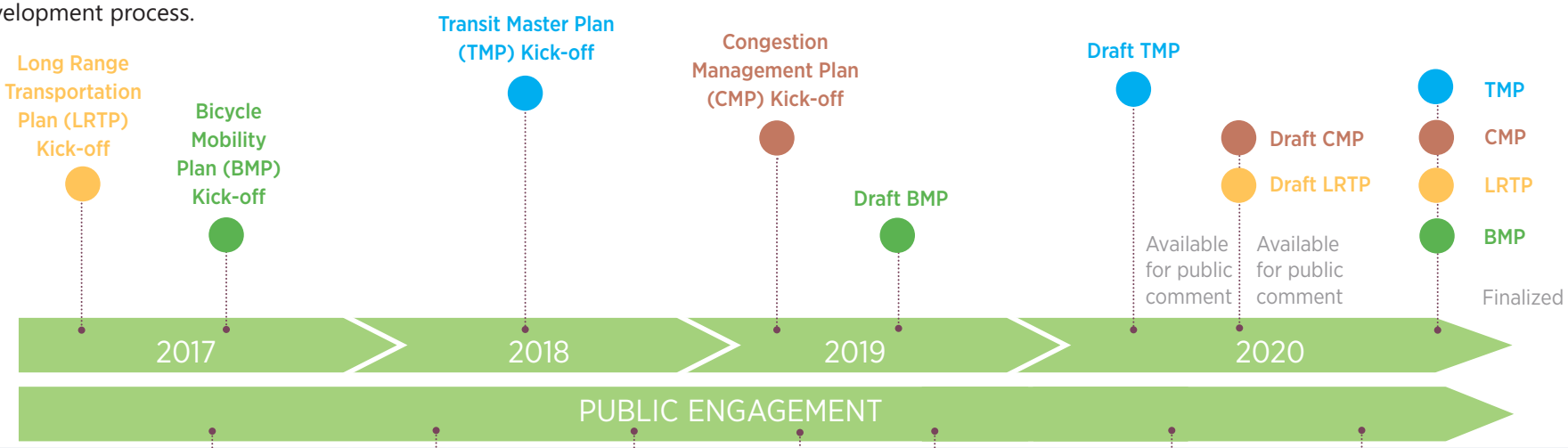
Feedback provided through public engagement conducted in each municipality across the state helped inform this plan's vision, goals, objectives and priorities. Over 300 participants attended the public workshops and over 1,300 people responded to the LRTP survey. This plan was further guided by feedback from 35 Advisory Committee Meetings, 22 stakeholder meetings and 17 State Planning Council and Transportation Advisory Council Meetings.

The LRTP is performance-based, which means it establishes measures to help gauge progress toward the goals and objectives. Many of these measures are federally required and are tracked on an annual or biannual basis. Other measures were identified as State Priority Measures and are designed to support policies and guide programming to achieve target system performance outcomes. The LRTP's 20-year vision informs Rhode Island's ten-year State Transportation Improvement Program (STIP), which programs funding for specific roadway, bridge, transit, and mobility projects.

LRTP Project Timeline

The LRTP process began by undertaking mode-specific planning elements to generate valuable data and recommendations, as well as additional critical planning tasks. Public and stakeholder engagement was woven into each element providing feedback and helping to steer the development of each multimodal plan and ultimately the LRTP.

Throughout the plan development, the State Planning Council, Transportation Advisory Committee, and a multidisciplinary LRTP Advisory Team have provided regular feedback and direction for this process. The project website, PlanRI.com, was paired with social media to provide ongoing communication with the public, share documents and distribute information about events and workshops. This timeline highlights the key milestones in the broader LRTP plan development process.



PUBLIC'S TOP PRIORITIES

Repair/maintain existing roads, sidewalks, and bridges

Reduce congestion

More opportunities for bike and transit use

Workshops held in all **5** counties

1,300+ survey responses

19 public meetings and workshops

300+ workshop participants

22 stakeholder meetings

35 advisory committee meetings

17 State Planning Council and Transportation Advisory Council meetings from June 2017 to plan completion

Transportation Planning and Programming Organization

This LRTP was developed with input and support from stakeholders across multiple disciplines. Ultimately, the three agencies driving decision-making in transportation investment are the Rhode Island Department of Transportation, Rhode Island Public Transit Authority, and the Rhode Island Division of Statewide Planning serving as the MPO. RIDOT, RIPTA, and the MPO carry out a continuing, cooperative, and comprehensive (3C) metropolitan transportation planning and programming process within the State of Rhode Island as defined and required by federal law (49 USC 5303 and 5304) and the U.S. Department of Transportation regulations 23 CFR 450; 23 USC 134 and 135.

METROPOLITAN PLANNING ORGANIZATION

RHODE ISLAND DIVISION OF PLANNING

State Planning Council *SPC*

27 Members Representing Local, State, and Private Stakeholders

Transportation Advisory Committee *TAC*

22 Members Support State Planning Council on Policy Decisions

Transportation

Performance Management, Performance Based Planning & Programming, State Transportation Improvement Program, Long Range Planning

Community Outreach

Comprehensive Planning & Outreach

Data Center

Information & Systems Modeling

Planning, Education & Administration

State Guide Plan & Local Technical Planning Assistance

DEPARTMENT OF TRANSPORTATION

RI DOT

Planning

Policy, Innovation, Asset Management & Information Systems

Engineering

Project Management

Central Program Support, Materials & Construction Management

Transit

Intermodal, Grants Management, Capital Projects, Operations, Transportation Alternatives

Bridge

Stormwater

Highway

Safety

PUBLIC TRANSPORTATION AUTHORITY

RIPTA
RHODE ISLAND PUBLIC TRANSIT AUTHORITY

Board of Directors *7 members*

Operations

Street Supervision, Fixed Route, Paratransit, Building/Vehicle Maintenance

Security

IT & Safety

Planning & Strategic Advancement

Capital Planning & Programming

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The Plan

The Long Range Transportation Plan (LRTP) is an essential element of the state's transportation planning process and identifies how the transportation system will meet the state's economic, transportation, development and sustainability goals over a 20-year planning horizon. This LRTP also satisfies Rhode Island's obligation to prepare a Metropolitan Transportation Plan (MTP) covering the entire state. While the requirements of a Long Range Transportation Plan and a Metropolitan Transportation Plan are nearly identical, the Metropolitan Transportation Plan must be "fiscally constrained"—meaning, that sufficient financial information is provided to confirm that transportation improvements can be implemented using committed or available revenue sources, with reasonable assurance that the federally supported transportation system is being adequately operated and maintained.

This LRTP is driven by a performance-based planning process that is reliant on an intensive data analysis and assessment approach to decision-making. Performance measures and targets improve the tracking of progress in key areas, and assist in measuring attainment of critical outcomes. Performance measures and targets have been established in coordination with other statewide transportation plans and processes including the Highway Safety Improvement Program, State Strategic Highway Safety Plan, the State Asset Management Plan for the National Highway System (NHS), the State Freight Plan, the Transit Asset Management Plan, and the Public Transportation Agency Safety Plan.

NATIONAL GOALS AND PLANNING FACTORS

Rhode Island is required to prepare a long-range statewide transportation plan that provides for the development and implementation of the multimodal transportation system, including elements of transit, highway, bicycle, pedestrian, and accessible transportation. This combined LRTP and MTP is the outcome of a continuing, cooperative, and comprehensive statewide transportation planning process that provides for consideration and implementation of projects, strategies, and services that addresses the following required factors:

1. Support of the economic vitality of the state by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase accessibility and mobility of people and freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and municipal-planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes throughout the state, for people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.
10. Enhance travel and tourism.

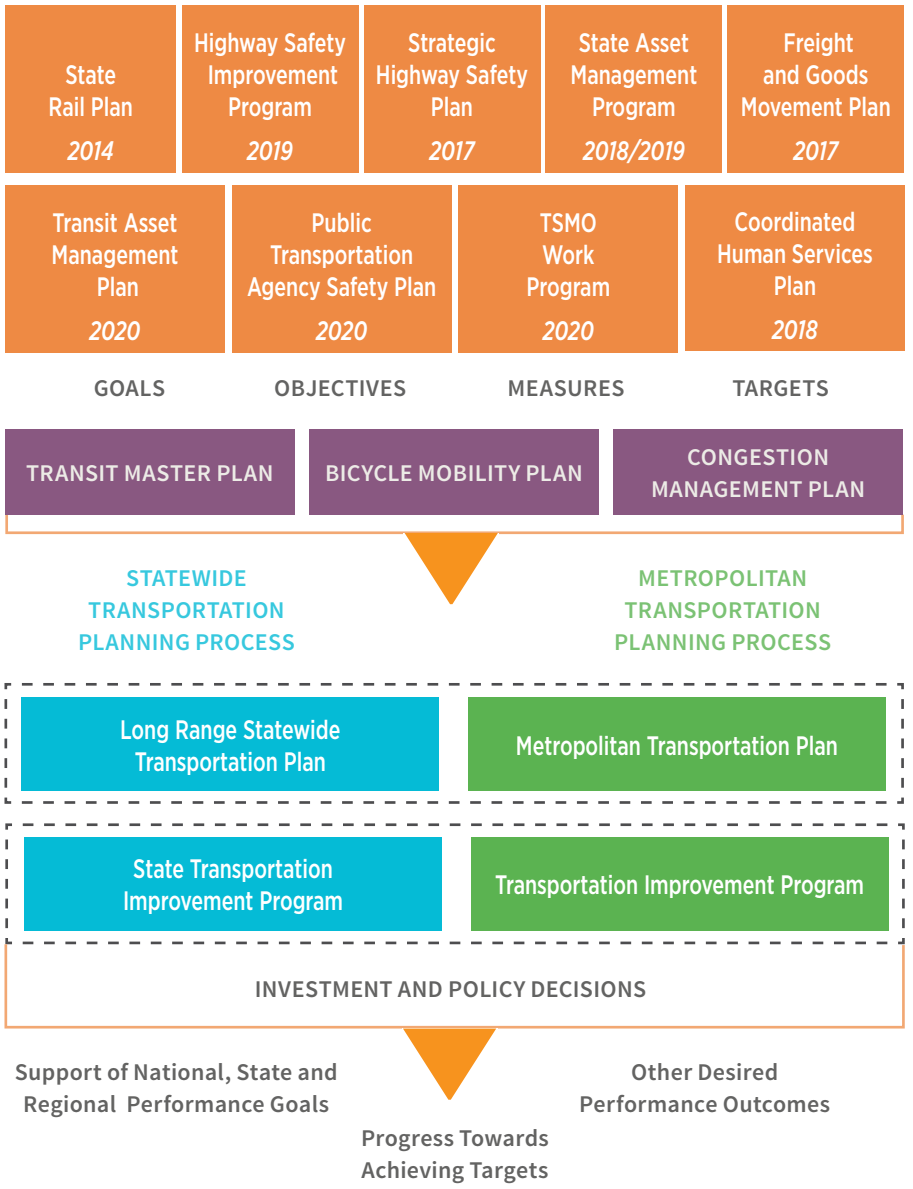
In addition, this plan considers other planning factors such as current and future land use, employment growth and labor markets, and housing and community development.

Bringing the Plans Together

Several State transportation plans representing different modes and transportation functions inform the goals and objectives of this plan. The LRTP has the challenge of synthesizing the goals, objectives, and visions for these various components into a performance-based plan for improving infrastructure, mobility, communities, and the economy.

Three master plans, specifically, were developed alongside the LRTP and played an integral role in shaping the vision, goals, and objectives of the LRTP. Those plans are the Transit Master Plan (Transit Forward RI), the Bicycle Mobility Plan, and the Congestion Management Plan.

The LRTP is a valuable planning document that sets the direction and vision for transportation in the State. This document is intended to inform the State Transportation Improvement Program, which lists the individual projects that are funded and programmed for implementation. Projects in the Transportation Improvement Program are supportive of the LRTP and, therefore, help the state progress toward established targets and achieve national and state performance goals.



2 A Vision for Rhode Island

Vision: This plan envisions a multimodal transportation network that connects people, places and goods in a safe and resilient manner by providing effective and affordable transportation choices that are supportive of healthy communities, provide access to jobs and services, and promote a sustainable and competitive Rhode Island economy.

By 2040, Rhode Island's transportation system will help create quality places to live and work, and support communities through improved connectivity. Rhode Islanders will be more active, healthier, and more socially and economically integrated into the community.

GOALS: Rhode Island moving forward takes a performance-based approach to planning future transportation investments across our multimodal network.

Support Economic Growth through transportation connectivity and choices to attract employers and employees

Promote Environmental Sustainability by prioritizing non-single occupancy vehicle focused strategies and investments

Strengthen Communities through the local transportation network to enhance travel, place, and quality of life

Maintain Transportation Infrastructure to create a reliable network providing adequate travel choices

Connect People & Places across all modes and options for more efficient and effective travel

A Unified Vision

Rhode Island has taken a highly comprehensive approach to long range transportation planning including the development of specific master plans for bike, transit, and automobile travel. Each master plan offers a network vision that leverages the unique opportunities and advantages of the mode and highlights how future investment could transform travel, economic development, communities, and the environment. While the vision and goals for each plan are consistent with this LRTP, they uniquely offer different paths toward achievement. This LRTP offers a fiscally-constrained approach to bring these plans together and align with the needs and functions of the transportation network.

TRANSIT MASTER PLAN

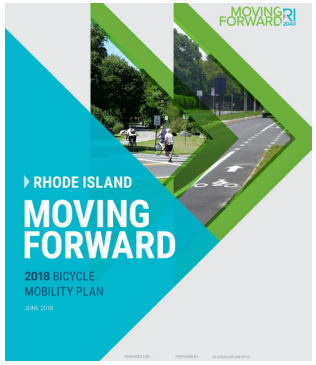
A 20-year vision for how transit could modernize travel in Rhode Island and provide new economic development opportunities through expanded mode choice, high frequency transit options, and service enhancements.

Goals:

1. Make transit attractive and compelling
2. Connect people to life's activities
3. Grow the economy and improve quality of life
4. Ensure financial and environmental sustainability

Initiatives:

1. Improve existing services
2. Expand services to new areas
3. Develop high capacity transit
4. Improve access to transit
5. Make service easier to use

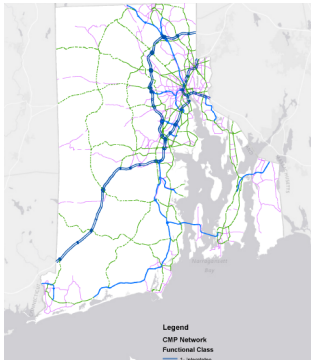


BICYCLE MOBILITY PLAN

A 20-year vision for making bicycling safe, fun, and practical. Recommendations range from bicycle paths, routes and design guidance to proposed policy and education changes.

Goals:

1. Connect and expand the state's bicycle network
2. Integrate bicycles with transit and other modes of transportation
3. Develop stronger statewide bicycle transportation policies
4. Promote equity in bicycle planning and funding
5. Increase bicycle safety with policies and programs
6. Leverage bicycle transportation to promove economic development
7. Improve public health through bicycling
8. Promote bicycle transportation for state employees



CONGESTION MANAGEMENT PLAN

A CMP is a systematic process for identifying congestion and its causes, developing monitoring processes to measure transportation system performance and reliability, and developing congestion management strategies and moving them into the funding and implementation stages.

Goals:

1. Improve reliability of the transportation system
2. Reduce recurring congestion
3. Improve freight and goods movement
4. Increase modal choice and competitiveness
5. Improve intermodal connectivity
6. Promote and invest in innovative congestion management technologies
7. Promote land development and infill development/redevelopment in transporation-efficient locations
8. Reduce emissions and improve air quality

3 Trends

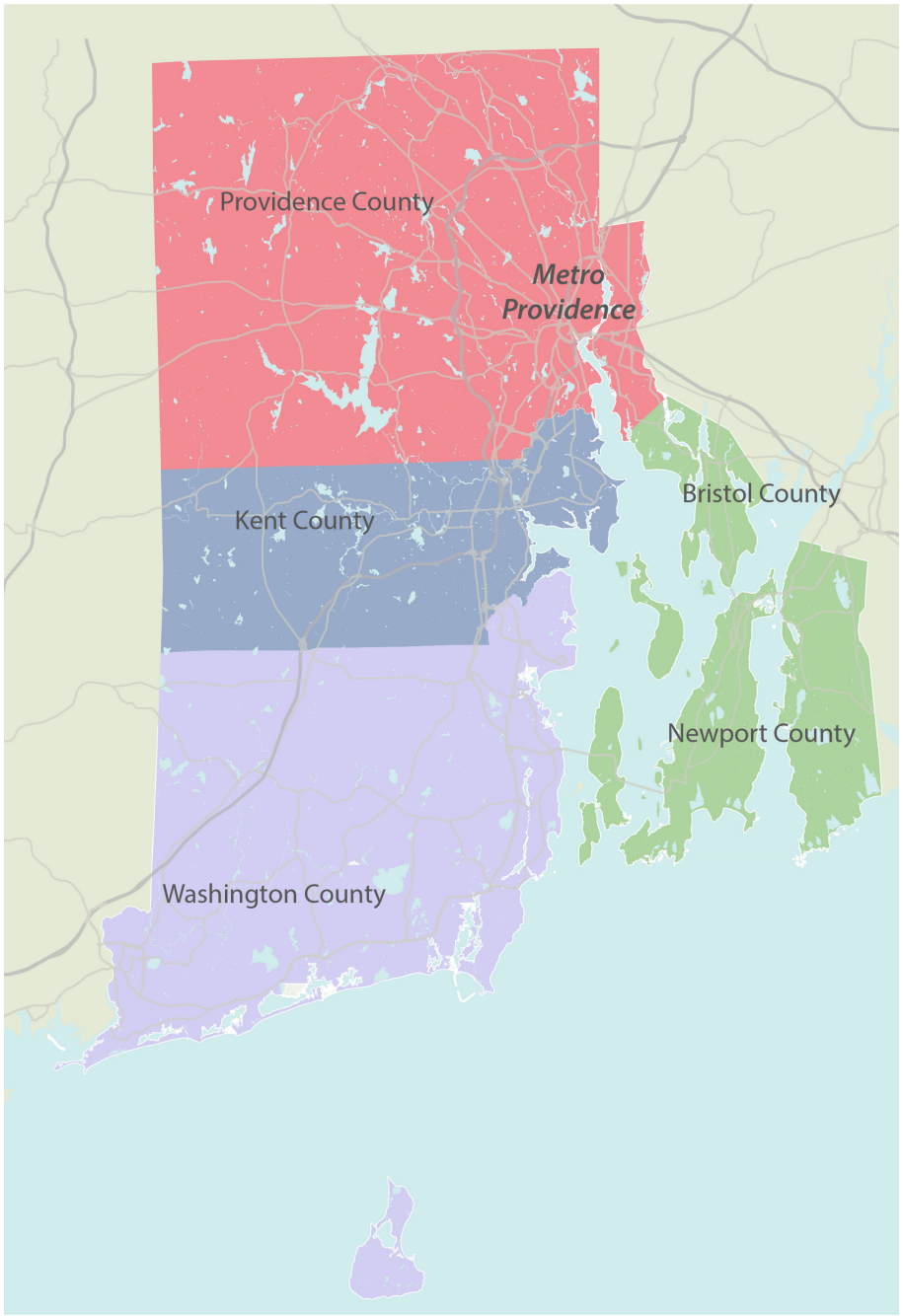
Rhode Island's multimodal transportation network faces a number of challenges and opportunities. Some are inherent to the transportation network itself—continuing to ensure the safe and efficient movement of people and goods—while others are related to changing transportation needs associated with technological, societal, demographic, land use, climate, and other environmental changes.

Nominal additional growth in residents and employers in the State will generate additional revenue, but these individuals will also demand more services, including transportation services, which will require increased spending.

The overall impact of transportation-related technological changes such as connected and autonomous vehicles (CAV), electric vehicles, and the shared mobility economy is unknown at this time. Under some scenarios there are subtantial benefits assumed, such as enhanced safety and reduced emissions. There may also be potential negative consequences such as the costs associated with creating a supportive power grid, diminished gas tax revenues, or the reinforcement of a car dependent network.

As Rhode Island sets its transportation agenda for the next 20 years, the State must monitor performance and develop programs and projects to address challenges and ensure Rhode Island remains a great place to live, work and do business.

It should be acknowledged that this LRTP was prepared amidst the COVID-19 pandemic. Long-term transportation system effects could include changes in congestion, travel patterns, decreased use of public transit and potential limited state funding from tolling and gas tax revenues. It would be difficult and highly speculative to account for these variables in the LRTP forecasts, especially the funding scenarios. COVID-19 has made it even more apparent that changes in transportation funding, pivoting away from reliance on gas tax and towards a user mileage-based tax, is a much needed policy reform.



Rhode Island's 4 Regions

Though Rhode Island is the smallest state, it contains a remarkable degree of geographic diversity. Reflecting that diversity, Rhode Island can be divided into four regions – North, Central, South, and the Southeast and Islands. Each of the regions has its own character, distinct needs, and associated transportation system.

North—Providence County and Metro Providence

- Burrillville
- Central Falls
- Cranston
- Cumberland
- East Providence
- Foster
- Glocester
- Johnston
- Lincoln
- North Providence
- North Smithfield
- Pawtucket
- Providence
- Scituate
- Smithfield
- Woonsocket

Central—Kent County

- Coventry
- East Greenwich
- Warwick
- West Greenwich
- West Warwick

South—Washington County

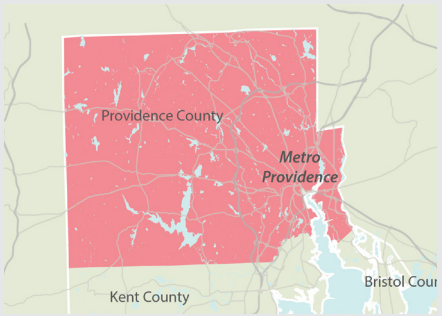
- Charlestown
- Exeter
- Hopkinton
- Narragansett
- New Shoreham
- North Kingstown
- Richmond
- South Kingstown
- Westerly

Southeast & Islands—Bristol and Newport County

- Barrington
- Bristol
- Jamestown
- Little Compton
- Middletown
- Newport
- Portsmouth
- Tiverton
- Warren

Providence County and Metro Providence

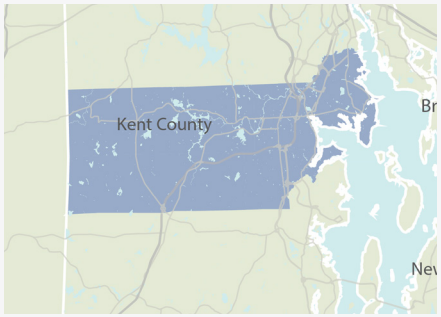
- The Providence Metro area is the most densely populated area and, as the capital city, has significant economic and employment activity
- Historical mill villages and manufacturing characterize the cities of Central Falls and Pawtucket
- The capital city serves as the cultural center for the state and is home to world-renown universities and colleges
- Towns that comprise the northwestern corner of the state are largely rural with suburban development



- Population 634,530 (2018)
- Employment 296,682 (2015)
- Population Change 2020-2040: 12,112 (+1.9%)
- Employment Growth 2020-2040: -1,269 (-0.4%)
- Land Area = 409 sq. mi.

Kent County

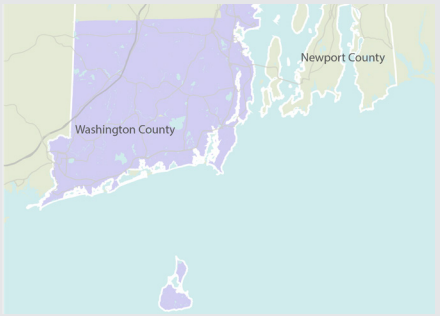
- Inner ring suburbs of Providence transition into suburban neighborhoods and commercial areas south of the capital
- Medium to low-density areas become more rural in the formerly agricultural reaches to the west
- TF Green International Airport connects Rhode Island to the national and global economy
- Population and employment growth is expected to be nominal



- Population 163,860 (2018)
- Employment 80,495 (2015)
- Population Change 2020-2040: 899 (+0.5%)
- Employment Growth 2020-2040: -1,038 (-1.2%)
- Land Area = 169 sq. mi.

Washington County

- Except for its coastal areas, the region is largely rural with an abundance of protected land
- Quonset Development Corporation and the University of Rhode Island serve as economic generators and tourism
- Coastal resiliency is a concern
- Anticipated to see the largest employment growth in the State, population growth will be more modest
- Tourist areas including Block Island experience congestion and safety issues due to the large influx of tourists and automobiles during the summer



- Population 126,240 (2018)
- Employment 55,202 (2015)
- Population Change 2020-2040: 12,539 (+11.0%)
- Employment Growth 2020-2040: 8,765 (+14.8%)
- Land Area = 329 sq. mi.

Bristol and Newport County

- Bristol County has medium density development, historic town centers and some commercial development.
- Connected to the rest of the State by bridges, Aquidneck Island is host to an international tourism economy and a growing naval defense and ocean technology sector
- Historic Newport contains medium density residential development, a US Naval Base and is an international sailing center
- Highest rate of educational attainment in the state
- Coastal resiliency is a concern

- Population 131,980 (2018)
- Employment 63,062 (2015)
- Population Change 2020-2040: -4,620 (-3.2%)
- Employment Growth 2020-2040: 2,701 (+4.1%)
- Land Area = 127 sq. mi.

Transportation Network

Intermodal Connections

3 MBTA commuter rail stations with a 4th station under construction (Pawtucket/Central Falls)

3 Amtrak rail stations

55 with 3 intercity bus connection points (PVD, Newport, and Westerly)

23 park n' ride facilities

6 state airports including 1 international airport (TF Green)

9 marine passenger ports

5 marine commercial ports

Travel Patterns

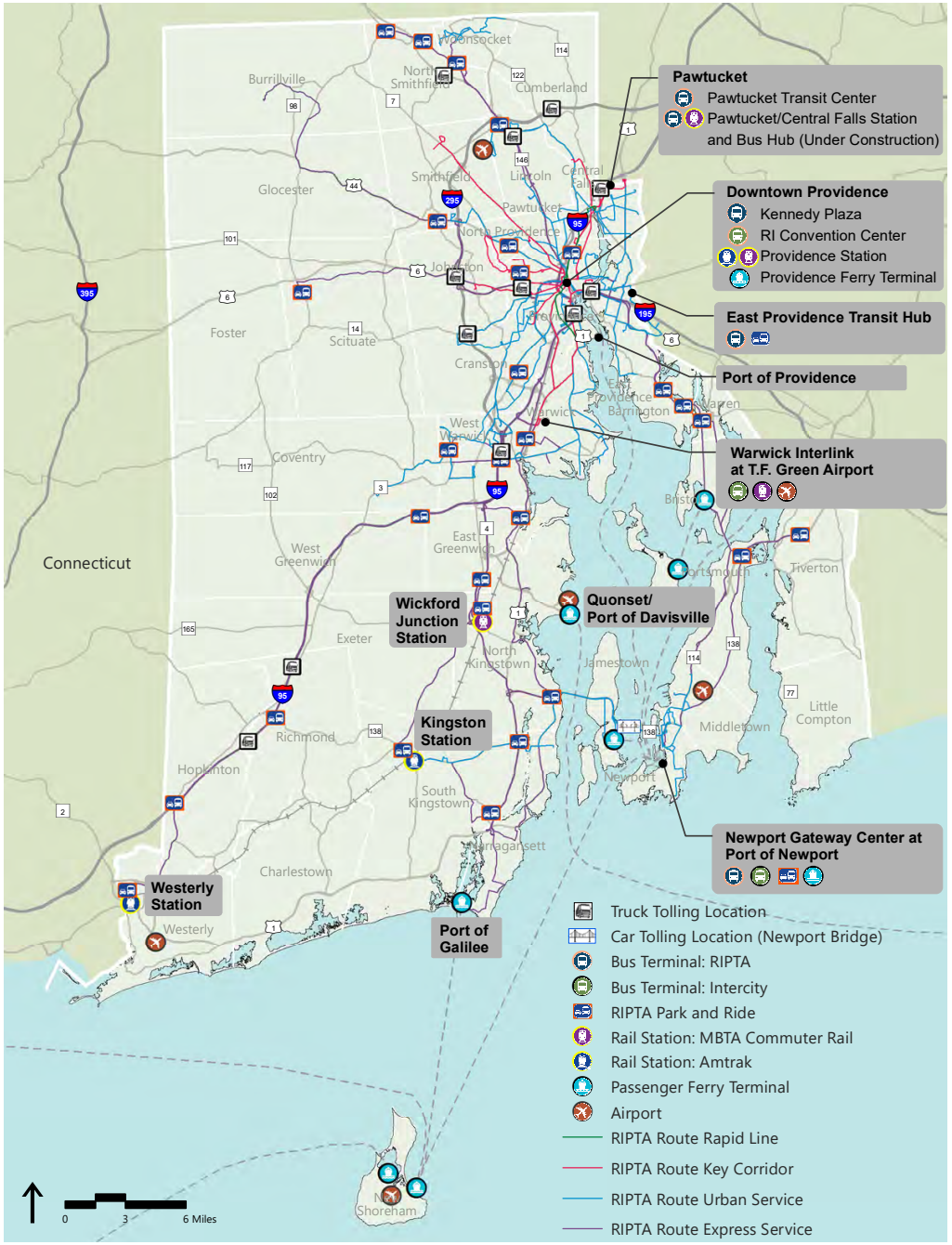
24.4 minute average commute to work (all modes)

0.5 million annual MBTA commuter rail boardings

16.2 million annual RIPTA boardings

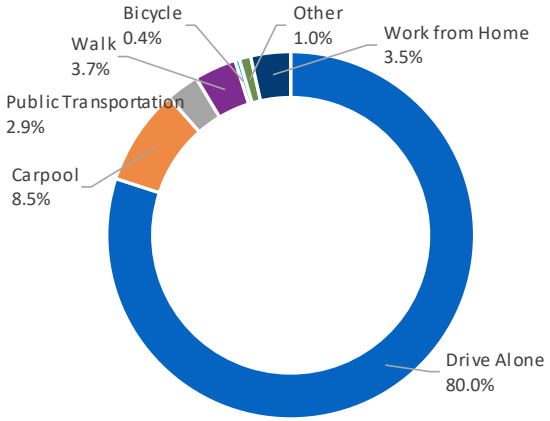
9.6 million annual fixed-route vehicle miles (RIPTA)

1.8 million annual airline boardings (TF Green, 2017)



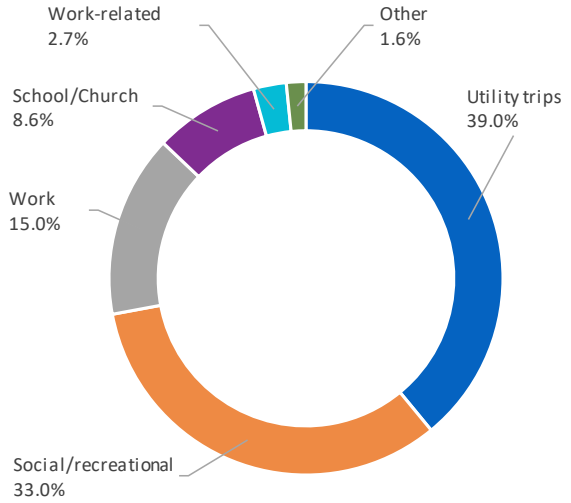
Transportation by the Numbers

How We Get Around



US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

Why We Travel



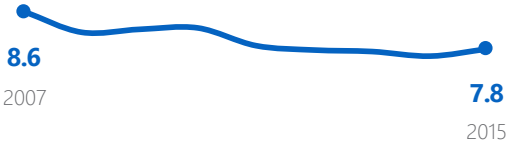
US Department of Transportation 2009 National Household Travel Survey.

On-Road

6,586 road miles
11.6 bike lane miles
0.8 transit lane miles
35 cities/towns served by RIPTA

On-Road Travel

7.8 billion annual vehicle miles traveled (2015)
▼ **9%** reduction since 2007



Regional Travel

33 cities accessible via direct flights
8 cities directly accessible by intercity bus
6 municipalities with ferry terminals (Providence, Newport, Bristol, Portsmouth, N. Kingstown, New Shoreham)
2 rail services providing access to the northeast corridor

Off-Road

67 miles of shared-use paths
50 miles of passenger rail
129 miles of freight rail

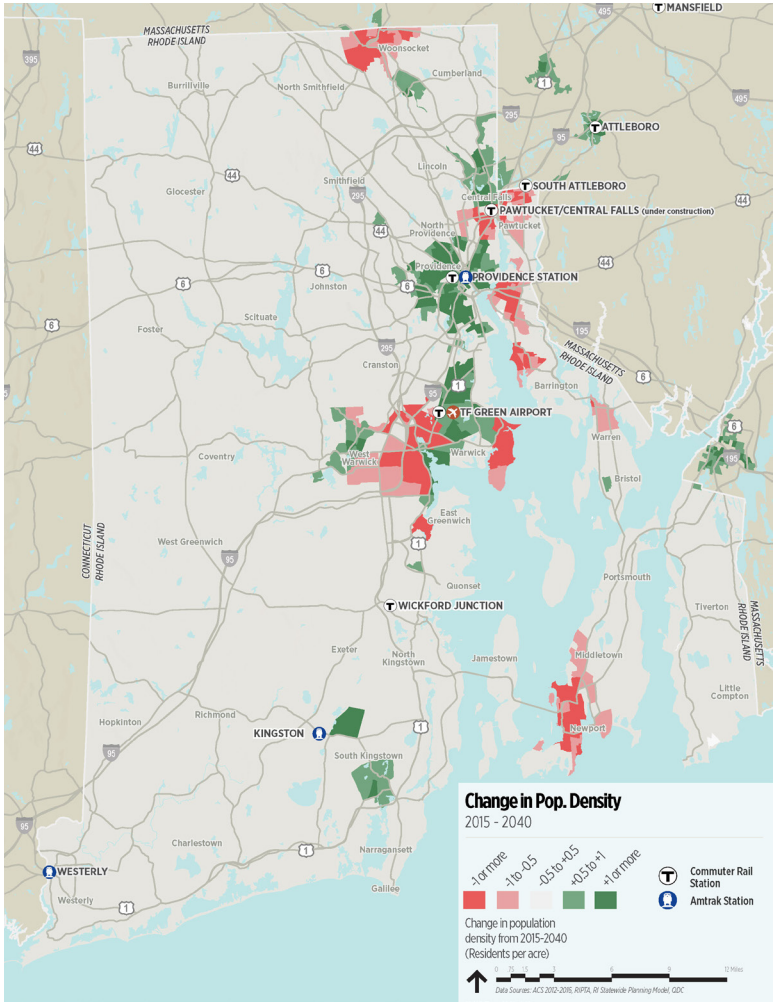
Bridges

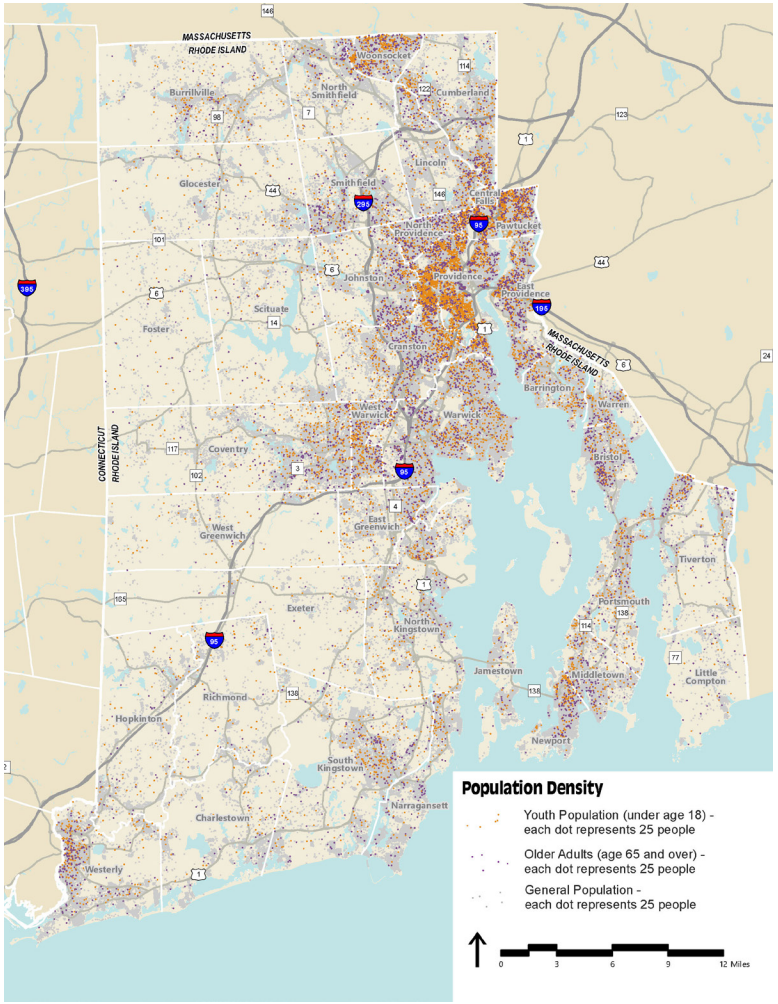
1,197 bridges
181 structurally deficient bridges (2016)
29% of all bridges in poor condition

Safety

55 five-year average crashes (2012-2016)
▼ **20%** reduction since 2012

Trends: Population Density





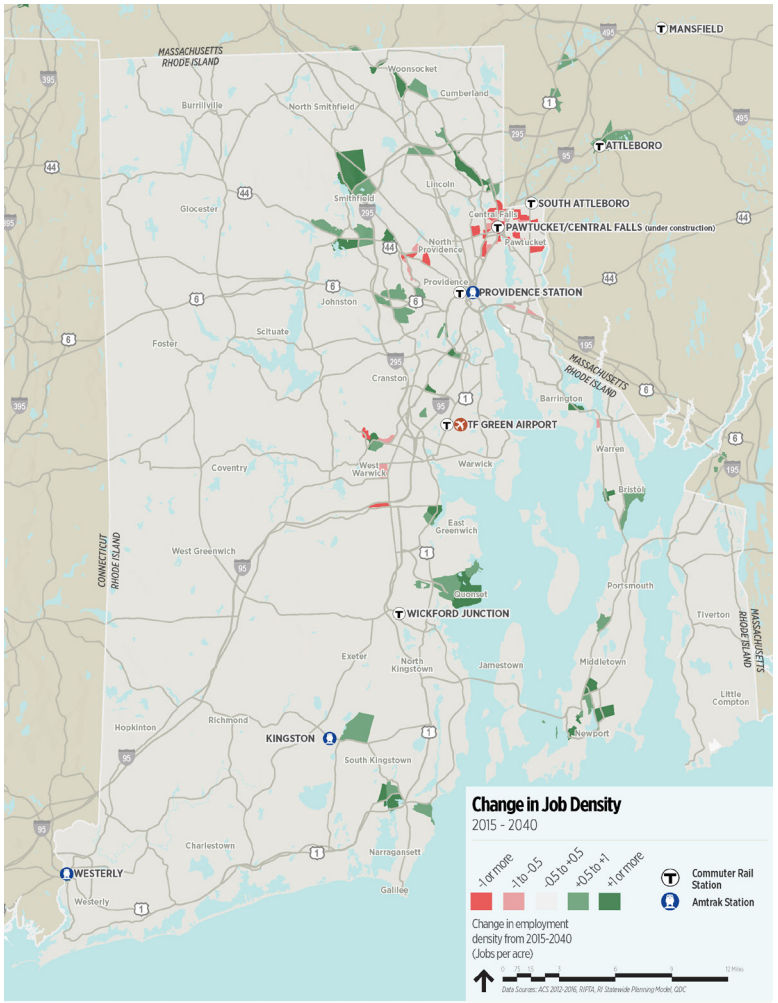
» By 2040, Rhode Island's population and the surrounding areas are predicted to increase by 4% and employment is predicted to increase by 6%.

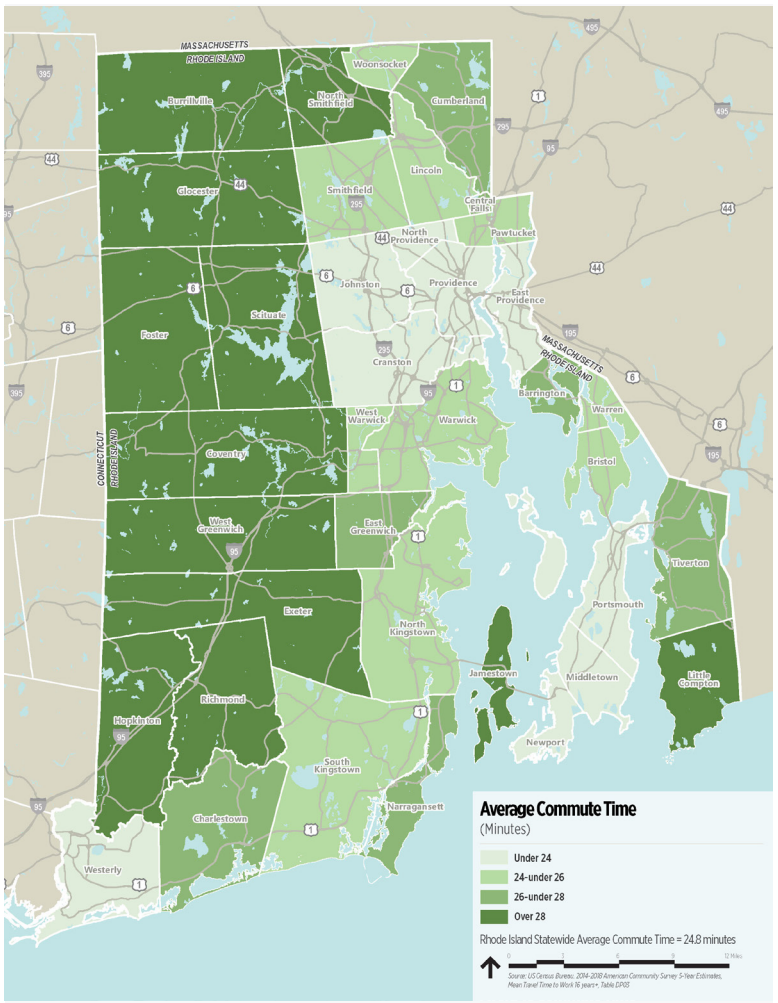
» Over the past few decades, Rhode Island has grown slowly, from 1 million in 1990 to 1.05 million in 2016. Through 2040, total population is projected to grow by 2% to 1.07 million. It is projected that changes will be small in all areas of the state.

» Most of the city of Providence is expected to densify by at least 1 resident per acre by 2040. The areas of Warwick adjacent to and north of TF Green Airport, the area around URI, and the villages of Peace Dale and Wakefield are expected to densify by at least 0.5 residents per acre by 2040. Population density is also expected to increase in Central Falls just north of the planned Pawtucket MBTA Commuter Rail Station.

» Rhode Island's youth population, under age 18, is heavily concentrated in the urban areas of the State such as Providence, East Providence, Pawtucket, Warwick, Cranston, and Woonsocket.

Trends: Employment and Commuting





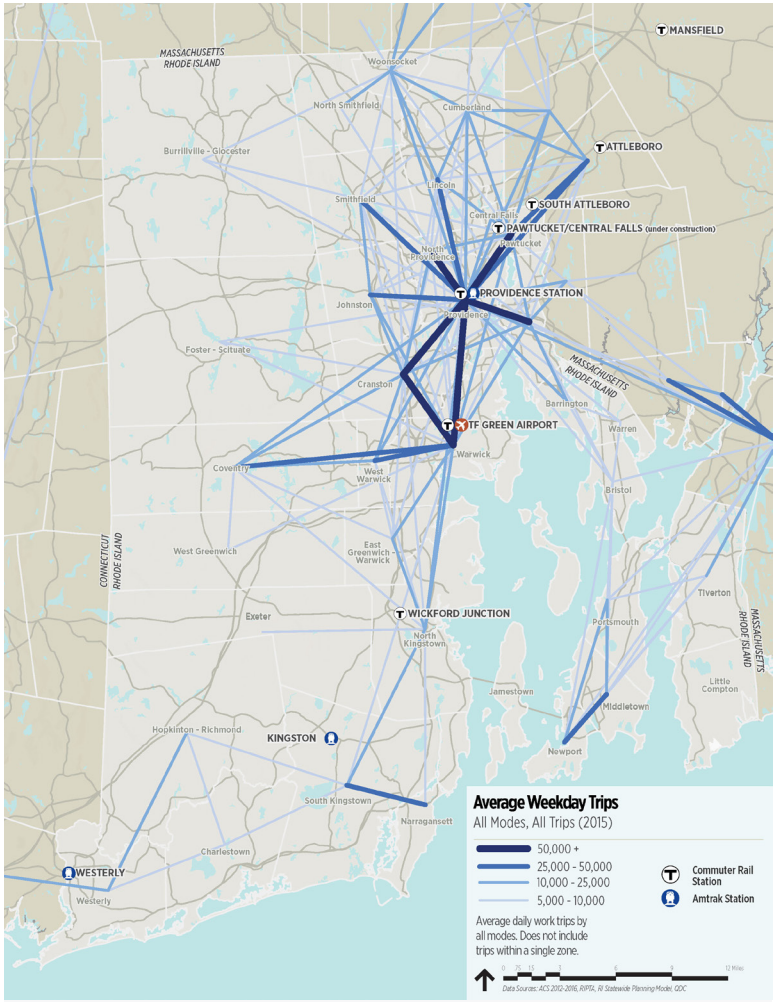
» Employment growth largely corresponds with areas where population growth is expected to occur. Western Providence, West Kingston, Peace Dale, and Narragansett are expected to experience an increase of up to 1 job per acre. Pawtucket and isolated areas of North Providence, Johnston, and West Warwick are expected to lose at least 0.5 jobs per acre. The largest areas expected to experience job growth are Smithfield, near I-295 and State Route 7, the Blackstone River corridor, Quonset, and Newport.

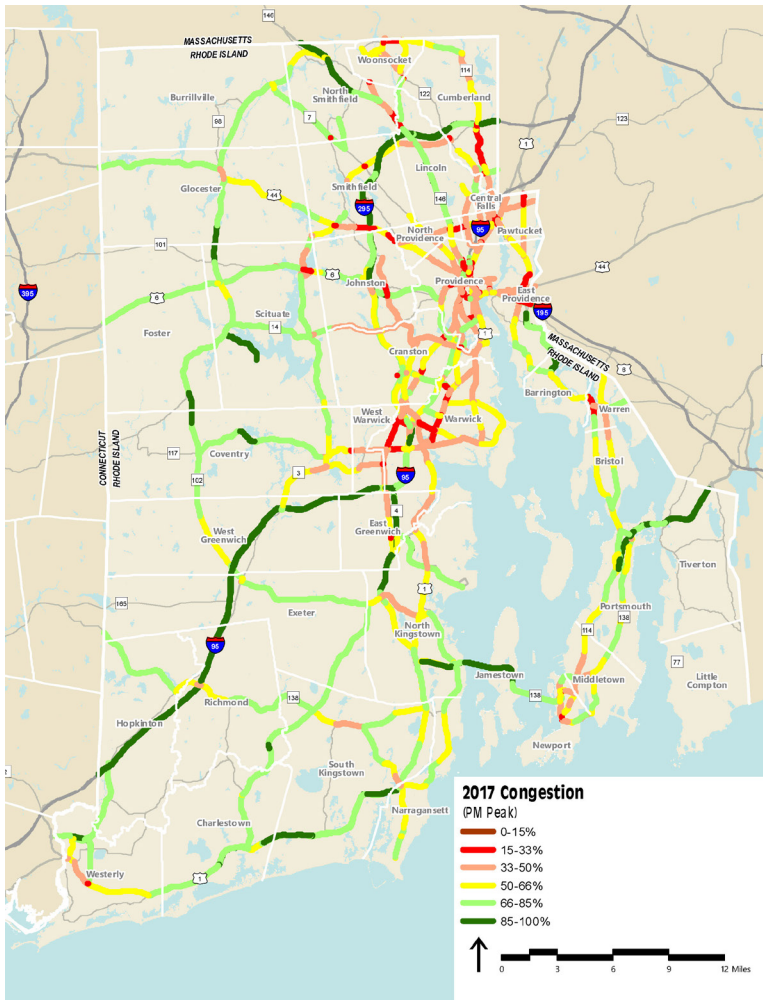
» The statewide average commute time is 24.8 minutes.

» Shorter home-based commutes are largely observed in urban municipalities surrounding Providence as well as Aquidneck Island.

» Many communities with longer commutes to work are in the rural areas of the State along the Connecticut border as well as North Smithfield, Jamestown, and Little Compton.

Trends: Travel Flow and Congestion





» Daily trips are expected to increase by 7% by 2040. Trips between Providence and neighboring dense communities remain the most significant. The largest increases in travel are between: Providence and areas west (Smithfield, Johnston, Cranston), South Kingstown and Narragansett. Internal trips increases in South Kingstown, North Kingstown, Smithfield, Coventry, Cranston, Cumberland, Providence and Bristol.

» Travel in Rhode Island is car-centric, and commute times are steadily rising. In 2016, 85% of Rhode Islanders were driving alone to work, compared to 76% nationally. Over two-thirds of commutes are under 30 minutes and 93% are under an hour. The average commute time is 24.4 minutes. Trends suggest higher commute times, due to an anticipated increase in commute lengths (and growing congestion).

» Congestion is indicated by travel speeds that are below desired speeds. Many segments of Rhode Island interstates and freeways are experiencing some congestion during peak travel as well as key arterials and corridors. Travel time reliability has also been suffering since 2013. Data shows that the buffer time, additional trip planning time to ensure on-time arrival, has been increasing.

» Key areas of congestion are in the Greater Providence area (include North Providence, Pawtucket, East Providence) down through Cranston and Warwick.

Challenges and Opportunities

SAFETY

Safe and efficient transportation is a top concern when planning for the next 20 years. While average motor vehicle fatalities and serious injuries have been trending downward over the past five years, the conflict between drivers and more vulnerable users are contributing to a disproportionate amount of pedestrian and bicycle incidents. See Highway Safety Plan (Reference J) for more details.

COMMUTING

Travel in Rhode Island is car-centric, with the percent of commuters driving alone 8 percent higher than national rates. While the average Rhode Islander enjoys a comparatively short commute (24.4 minutes) the trend is toward higher commute times and an increase in the percentage of longer commutes. See Congestion Management Plan (Reference C) for more details.

AGING INFRASTRUCTURE

Systemic structural deficiencies and addressing "State of Good Repair" needs will take decades to fix and shifts focus away from improving operations and network reliability on our highway and transit networks. See Transportation Asset Management Plan (Reference I) for more details.

TRAFFIC CONGESTION

With increasing vehicle miles traveled (VMT) on Rhode Island's roadways, congestion is also increasing in frequency and duration with bottlenecks becoming more apparent and impactful. Addressing congestion requires adding roadway capacity, leveraging traffic demand management tools, and providing alternative travel options. See Congestion Management Plan (Reference C) for more details.

CYBERSECURITY

The introduction of new technologies such as wirelessly connected vehicles and infrastructure increases the risk of exposing critical network data and increases the importance of cybersecurity. The convenience of digital motor vehicle transactions also increases exposure to cyber-security attacks.

SHARED MOBILITY

Mobility service providers that connect vehicles and riders (e.g. Zipcar, Uber, Lyft) or bike/scooter-share systems can provide cheaper, flexible, and on-demand service, and are influencing (or changing) trends in vehicle ownership and transit ridership. The evolving role of shared mobility warrants reconsidering policies that guide facility design and maintenance.

TRUCKING & E-COMMERCE

Online shopping and delivery services will continue to alter how and when people and goods travel, types of vehicles and length of trips. Fewer individual shopping trips may be offset by more delivery truck trips. Trends in e-commerce and a growing economy demands our transportation systems keep pace.

SUPPORT FOR ECONOMIC VITALITY

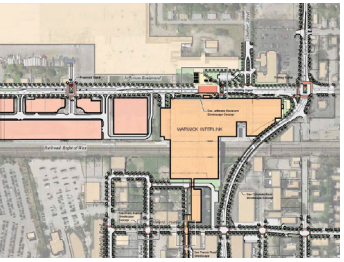
Growing the economy requires investment in transportation to facilitate the efficient movement of people and goods. Travel delays caused by poor weather, crashes, or congestion, cost time and money and reduce economic competitiveness. Connecting people and jobs is critical to workforce development especially in Environmental Justice areas. See Congestion Management Plan (Reference C) for more details.

CONNECTED & AUTOMATED VEHICLES

Connected and autonomous vehicles (CAV), including models with functions such as driver alerts and controlled braking or steering, will constitute a larger portion of the vehicle fleet in coming decades. Driver assist features could reduce roadway incidents and improve traffic conditions. However, infrastructure investments will be needed to fully realize the benefits of CAVs and the convenience of CAV travel may encourage more vehicle miles traveled.

ELECTRIC VEHICLES

Electric vehicles (EV) promise lower transportation costs and a cleaner environment. Widespread adoption of EVs largely depends on battery technology, refueling access, and future oil prices. While much cleaner, adopting electric vehicles in Rhode Island will decrease gas tax revenue used to support roadway and bridge construction. See Trends Report (App C) for details.



SMART GROWTH

There is a strong correlation between development patterns and transit ridership. In areas with denser, mixed use development, and comfortable pedestrian environments, transit can be efficient, convenient and attractive. Decentralized growth is hard to efficiently serve with transit, resulting in fewer or longer trips, meaning more resources are needed to serve fewer people. See Transit Master Plan (Ref B) for details.

ACTIVE TRANSPORTATION

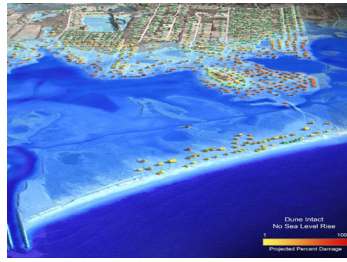
Active transportation, safer streets and improved bicycle connectivity yield a range of benefits and transportation choices. Walking and cycling are opportunities to improve physical and mental health through greater activity and time outdoors. Removing the barrier provided by a vehicle gets travelers better in touch with their communities and more invested in their communities. Ultimately, expanded transportation choices and strong communities encourage economic development and opportunities that benefit all.

BOOMER & MILLENNIAL POPULATIONS

Significant changes in the state's age distribution are expected. The state population will become older, with increases in those age 65+, and decreases in those under 30. For Boomers, this means transitioning to shared or connected vehicles. For millennials that spend less for transportation and show preference for ridesharing and active transportation, bike/pedestrian and transit improvements are needed. See Trends Report (Appendix C) for more details.

CLIMATE IMPACTS & RESILIENCY

Rising sea levels, extreme flooding, and hotter temperatures will stress transportation infrastructure in the future differently than today. These environmental effects require changes in design specifications for system resiliency. Long range planning will be required to adapt to more frequent freeze thaw cycles and precipitation events. See Trends Report (Appendix C) for more details.



DECLINE IN REVENUES

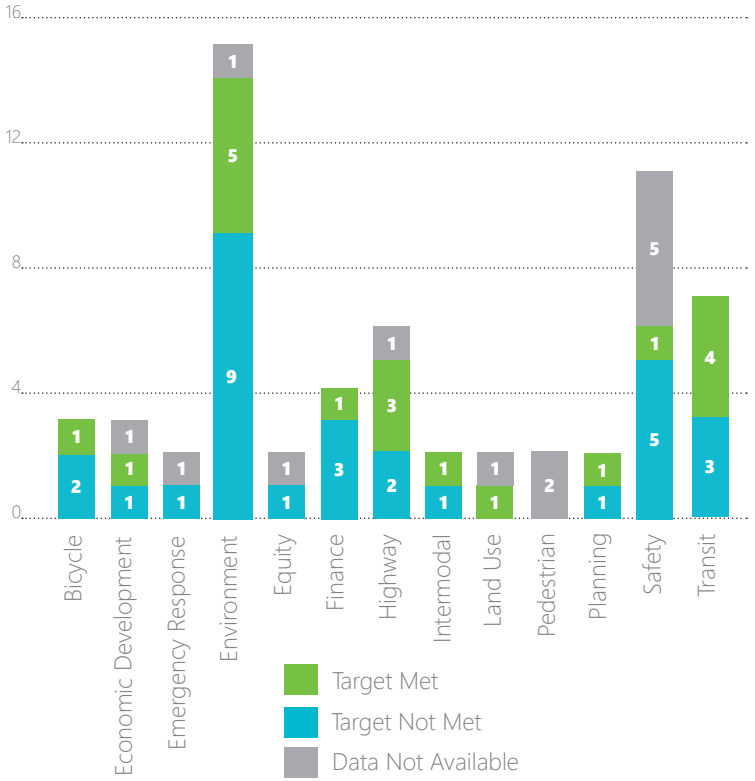
Maintaining a sustainable source of transportation revenue while promoting electric vehicles and public transportation will be a focus of public policy in the coming decade. Alternative forms of revenue beyond gas taxes, are being generated via vehicle-mileage taxes, truck and vehicle tolling, EV registration fees, and sales tax. Opportunities such as grant funding will continue to be important. The COVID-19 pandemic, combined with the growth in electric vehicles, have brought to light the need to reform transportation infrastructure funding to reduce reliance on gas tax revenues. Moreover, today's reliance on gas tax revenues for transit funding is a paradox where commuters shifting from driving to transit reduce gas tax revenues that help fund transit. See Revenue Projections (Appendix F) for more details.

2037 System Performance

The prior LRTP Transportation 2037 established performance measures in 13 program categories for which goals, objectives and strategies were delineated against 2007 baseline conditions. Of the 60 performance targets of Transportation 2037, 29 were met and 19 were not met or only partially met. Data was not available to measure the outcomes of 9 other targets. Of the targets that could be measured, 60% were met.

» Progress was particularly strong in Safety, with reductions in the number and rate of roadway fatalities, including those that are alcohol related. Serious pedestrian and bicyclist injuries were reduced, and seatbelt use increased.

Performance Measure Summary



» Progress in the Environment target area included reductions in Greenhouse Gas emissions and improved air quality through reductions in ozone, oxides, particulate matter, and lead. However, water quality targets were not met.

» Transportation Finance targets were met for budgeting and minimizing project cost overruns, however, increasing the percentage of RIPTA operating expenses covered by farebox revenues was not met.

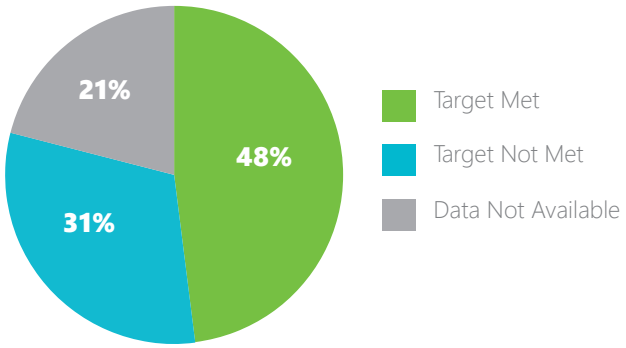
» Highway targets were met for reducing the rate of vehicle miles traveled growth and commuting times, but infrastructure targets were only partially met. While interstate highways were maintained in "good" condition, state roads were generally in "fair" condition. The percentage of structurally deficient bridges was reduced, but not to the desired targets.

» Transportation 2037 categories of Bicycle, Intermodal, Pedestrian, Transit and Economic Development promote transportation alternatives to driving. Targets were met for increasing the share of bicycle and walking work commute trips, and for increasing ridership on the Providence-Newport Ferry. Commuter rail stations were built at Warwick and Wickford, a 200-mile integrated state bike system was completed, 100% of all RIPTA buses were equipped with bicycle racks and the maintenance of RIPTA buses was improved as demonstrated by fewer breakdowns.

» Partial progress was made on use of transit for commuting, number of colleges using the RIPTA University Bus Pass program, and completion of the East Coast Greenway. Carpooling percentages for commute trips remained level. Ridership targets for RIPTA were not met.

» The Equity target of equitable allocation of transportation spending in minority and low-come census tracts was met.

System Performance Report Target Summary Status



Recently Completed Projects and Other Accomplishments

In the past five years Rhode Island has completed these projects. They are consistent with the goals established in this LRTP moving forward to 2040.

Connect People and Places

OBJECTIVES

EXPAND CONNECTIVITY ACROSS MODES | **REDUCE TRAVEL CONGESTION** | **IMPROVE REGIONAL CONNECTIVITY**

PROGRESS OVER THE PAST 5 YEARS

- In 2016, RIDOT reestablished ferry services in the Narragansett Bay. Ridership during the 2019 Ferry Season was 46,000, an increase of 28% since 2016. The ferry serves Newport, Bristol, and Providence with special services for the Fourth of July in Bristol and WaterFire nights in Providence.
- RIDOT began preliminary design for TF Green Intercity Rail Service to bring electric passenger rail service to Warwick. This project, when constructed, will expand transportation options for visitors at TF Green Airport, and increase access, connectivity, and ridership along the Northeast Corridor. The design is funded by a $2.8 million Consolidated Rail Infrastructure and Safety Improvements (CRISI) grant awarded by the FRA to enhance Amtrak's intercity service.
- In 2018, RIDOT began work on the $343 million Route 6/10 Interchange project. The project involves nine bridge replacements including constructing the "missing movement" that will allow Route 10 northbound traffic to access Route 6 west without traveling through Providence's Olneyville neighborhood. In addition to State of Good Repair efforts, the project creates 1.4 miles of new bike path and opens up more than four acres of developable land. In 2019, the first new bridge structures were opened to traffic when the southern half of the Hartford Avenue and Plainfield Street bridges were completed.
- Construction on the Downtown Transit Connector (or "DTC") wraps up in 2020. DTC provides scheduled, high-frequency transit service along a 1.4-mile corridor between the Providence Train Station and the Hospital District in Upper South Providence. The service features dedicated bus lanes, queue jump lanes at signals, enhanced bus shelters, real-time arrival signage, bike share stations, and transit signal priority for buses on the corridor.
- In 2019, RIPTA introduced a new account-based fare collection system. The WAVE system allows passengers to purchase stored value smart cards on-line, at RIPTA outlets and at retail locations, and incorporates a mobile ticketing application. The new fare payment method will offer "fare capping" to automatically give customers discounts and will increase convenience.
- With approximately 8,500 R-Line boardings in 2018, the R-Line continues to be the highest ridership public transit route in Rhode Island.
- In 2018, the state initiated construction of a new intermodal transportation center in Pawtucket. Together, RIDOT and RIPTA are constructing a new MBTA commuter rail station with overhead pedestrian bridge and adjacent bus hub. The RIPTA bus facility is anticipated to open in 2022, with commuter rail service anticipated for mid-2022.
- Federal grants for transportation infrastructure have been received for major projects such as the Providence Viaduct, Henderson Bridge, Pell Bridge, Route 4/95 Interchange, and the Route 146 Project.

Maintain Transportation Infrastructure

OBJECTIVES

DESIGN ROADWAYS TO INCREASE TRANSPORTATION CHOICES

ENHANCE TRANSPORTATION SAFETY

ENHANCE TRANSPORTATION NETWORK RESILIENCE

ACHIEVE A STATE OF GOOD REPAIR

PROGRESS OVER THE PAST 5 YEARS

- In 2018, RIDOT's "RhodeWorks" Infrastructure Improvement Plan opened the first 2 of 14 All Electronic Toll (AET) locations. To date, 8 of 14 locations have begun collecting user fees on tractor trailers to fund reconstruction of structurally deficient bridges.
- In 2019, RIDOT replaced the deck of the Oxford Street Bridge along I-95 in Providence. This project used accelerated bridge construction methods and was completed six months ahead of schedule and $500,000 under budget.
- In 2017, RIDOT won an America's Transportation Award for the RhodeWorks infrastructure repair plan under the "Best Use of Technology and Innovation" large project category in the 2017 Northeast Regional America's Transportation competition.
- The Providence East Side Transit Bus Tunnel is a 100-year old dedicated bus tunnel linking South Main Street, at the base of College Hill, with Thayer Street at the top. A $10.4 million project will modernize the tunnel and return it to a State of Good Repair. Design was initiated in 2019 and will include passenger amenities and shelter improvements.
- The I-95N Viaduct Project ($249 million) that runs through Providence involves rebuilding the interchange and eliminating weaves to greatly reduce traffic congestion and significantly improve safety. Four of the five bridges in the interchange that will be replaced are structurally deficient. Six additional structures will be rehabilitated, and there will be three new structures built that do not exist today. In 2020, RIDOT prepared a Design-Build solicitation which was awared and the FHWA completed their review of RIDOT's Environmental Assessment.
- In 2016, RIDOT completed two rapid bridge replacement projects in East Providence. The East Shore Expressway Bridge was replaced over a long weekend shutdown of 83 hours. Two weeks later, the McCormick Quarry Bridge was replaced in just 65 hours. This innovative approach was taken in 2017 for the Tefft Hill Trail Bridge on I-95 north in Exeter, RI (36 hours).
- Since 2015, Rhode Island has continued to implement measures to reduce fatalities and serious injuries on its roadways. The most dramatic shift has been a significant 17 percent reduction in serious injuries over this period.
- The RIDOT Maintenance Department has introduced a new direct injection technology, or "pothole killer". Thanks to this technology, pothole complaints are down over 30 percent.
- To improve safety and help prevent drivers from entering the highway in the wrong direction of travel, RIDOT implemented a wrong way crash mitigation program starting in 2015. RIDOT upgraded the signing and striping at 145 locations and installed wrong-way driver detection systems at 27 high-risk areas where drivers chronically enter the highway at an off-ramp and travel in the wrong direction.

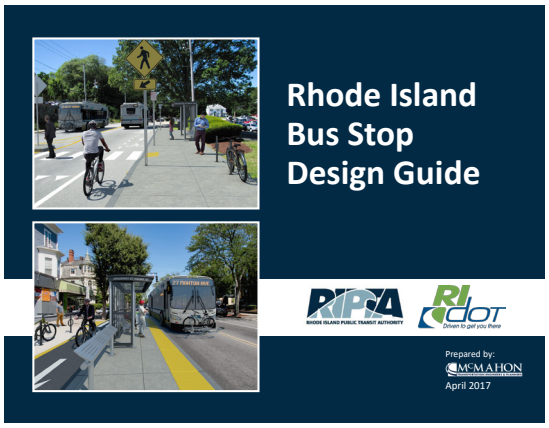
Strengthen Communities

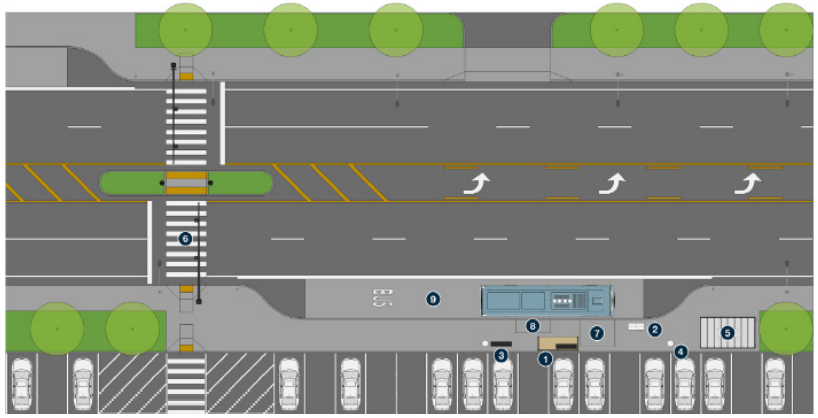
OBJECTIVES

IMPROVE INDIVIDUAL AND COMMUNITY HEALTH | **FOSTER SOCIAL EQUITY** | **ENCOURAGE CONNECTED COMMUNITIES**

PROGRESS OVER THE PAST 5 YEARS

- In 2018, RIDOT unveiled a new roadway safety/distracted driving media campaign showcasing personal messages from Rhode Islanders to family members and loved ones asking them to put down their phone and "Just Drive."
- On June 1, 2018, Rhode Island enacted the hands-free mobile device statute. The new law prohibits the use of a non-hands-free personal wireless communication device while operating a motor vehicle.
- In 2018, RIDOT implemented a public awareness campaign, the Ripple Effect, which focused on the deadly consequences of impaired driving. Coordinated messages appeared on television, radio, billboards, and social media to communicate the widespread "ripple effect" of these avoidable roadway fatalities.
- The 2017-2022 Strategic Highway Safety Plan is the blueprint for achieving Toward Zero Deaths, a national effort to halve traffic fatalities and serious injuries by 2030. The plan emphasizes 11 safety areas including impaired driving, distracted driving, pedestrians/cyclists, infrastructure, and speed.
- In 2016, RIDOT's Title VI Plan, which is required under the Civil Rights Act of 1964, was completely rewritten and approved by the FHWA. A major rewrite of RIDOT's Americans with Disabilities Act (ADA) Transition Plan was also completed.
- In June 2018, RIDOT and the Rhode Island National Guard offered free train service to the Quonset Air Show via the commuter rail. It proved to be another successful year with nearly 4,300 people taking advantage of the service and avoiding traffic congestion.
- In 2017, the RIDOT Office of Highway Safety (OHS) created pedestrian educational curricula for businesses and their employees and for law enforcement agencies, and secured dedicated funding for pedestrian safety patrols.
- During 2017, RIDOT's Office on Highway Safety (OHS) sponsored a training for law enforcement on enforcement strategies for of the State's texting-while-driving ban.
- In 2016, RI's Impaired Driving Task Force, known as "The RI Impaired Driving Prevention Alliance" conducted its first Summit. This training is part of the State's effort to reduce vehicle and roadway user fatalities.
- In 2017, RIPTA and RIDOT published Rhode Island Bus Stop Design Guidelines. These guidelines establish clear guidance on how to better integrate transit into the roadway network and provide design guidance that will improve operations and the passenger experience.





Promote Environmental Sustainability

OBJECTIVES		
REDUCE VEHICLE MILES TRAVELED	**REDUCE TRANSPORTATION GREENHOUSE GAS**	**CREATE A NETWORK OF OPEN SPACE, TRAILS, AND PATHS**

PROGRESS OVER THE PAST 5 YEARS

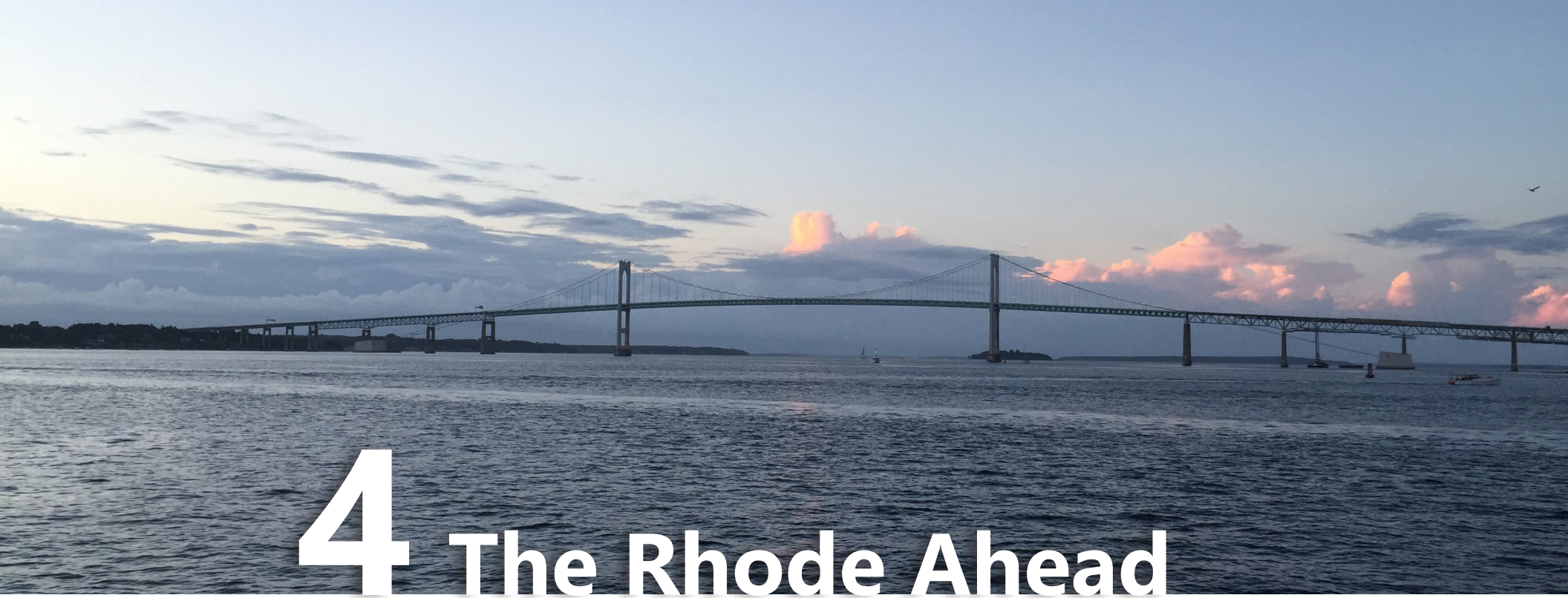
- MBTA commuter rail serves about 1.1 million passenger trips annually in Rhode Island. From 2015 to 2018, ridership at all three Rhode Island stations increased from almost 3,700 average daily passenger trips to 4,700 passenger trips, a 29% increase.
- Ridership at Amtrak stations increased by 16% between 2011 and 2017. The largest growth has been at Providence Station, where ridership increased by 19%. Providence Station served nearly 740,000 total passenger trips in 2017, Amtrak's 11th busiest station in the country.
- To encourage and enable transit-orientated development, four communities have implemented special district zoning and other provisions:
  - **Providence** requires transit supportive design surrounding Providence Station, and in two overlay zones along the R-Line Rapid Bus corridor
  - **Warwick** created the City Centre Warwick special development district surrounding the TF Green/Warwick commuter rail station
  - **Pawtucket and Central Falls** created the Conant Mill Thread district surrounding the future Pawtucket/Central Falls commuter rail station
  - **Wickford Junction** station is surrounded by a TOD zone
- In November 2019, a 2-mile, $2.9 million bikeway, primarily funded by the RIDEM Green Economy Bond, connecting the URI Kingston Campus to the William C. O'Neill Bike Path, was completed. The bikeway connects URI with Peace Dale, Wakefield and Narragansett. It also gives community members a safe and convenient way to get to and from campus. A key feature of the project was a traffic signal at the Route 138 crossing. The HAWK (High-Intensity Activated CrossWalK Beacon) traffic system allows cyclists and pedestrians to cross the state highway safely by activating a red light that stops traffic in both directions.
- The City of Providence Great Streets Master Plan establishes a vision and framework for improvements to connect all Providence neighborhoods to a high-quality network within the public realm. The plan recommends strategies for creating a safe, comfortable street network for multimodal users.
- There are several initiatives underway to expand Providence's urban trail network. Two new urban trail segments have recently been completed in Providence—a segment along San Souci Drive behind Olneyville Square as part of the Woonasquatucket Greenway; and a segment adjacent to Gano Street in Fox Point under a RIDOT project, connecting the Blackstone Bike Path to India Point Park and the East Bay Bike Path. Under design is another key segment along the Greenway at the former GE Baseworks site, now the Gotham Greens complex. Under construction is the Route 6/10 project which will create a trail connection over the highway and adjacent Amtrak infrastructure extending the Washington Secondary Trail extension to De Soto Street. The reconstruction of the Henderson Bridge will include a shared-use path connecting Providence and East Providence. Lastly, the Woonasquatucket River Greenway Improvement Project will create an enhanced urban trail network from the Providence Place Mall to the ALCO/US Rubber Lofts Complex and Eagle Street.

Support Economic Growth

OBJECTIVES		
EXPAND CONNECTIONS TO JOBS	**IMPROVE FREIGHT CONNECTIVITY ACCESS TO NATIONAL/GLOBAL FREIGHT MARKETS**	**MAKE TRANSPORTATION INVESTMENTS SUPPORTIVE OF TOURISM**

PROGRESS OVER THE PAST 5 YEARS

- In partnership with the City of Providence and the I-195 Redevelopment Commission, RIDOT constructed a pedestrian/bicycle bridge on the granite piers of the old I-195 bridge crossing the Providence River. The bridge is an important connection linking the Providence Innovation & Design District.
- In 2019, RIDOT introduced autonomous travel to Rhode Island with the "Little Roady Shuttle Pilot Project". The electric shuttle traveled a 5-mile route along the Woonasquatucket River with 12 stops. This initiative engaged the community, stakeholders, and policy-makers in research and planning for autonomous vehicles.
- In 2018, RIDOT was awarded $20 million in new federal funding from the Transportation Investment Generating Economic Recovery (TIGER) grant program for the Route 37 Corridor Safety Sweep project ($72.2 M). The project touches 15 bridges for replacement, rehabilitation, or preservation, while improving the traffic conditions along a 1.6-mile section of Route 37. This project also opened up Public-Private Partnership opportunities with area developers for continued investment in local roadways to reduce congestion.
- At the end of 2016, Rhode Island received final approval on the 10-year State Transportation Improvement Program (FFY 2017-2025 STIP) from the FHWA and the FTA, making Rhode Island only the third state in the nation to have an approved fiscally constrained 10-year program.
- In 2018, RIDOT was awarded a $20 million grant through the Better Utilizing Investments to Leverage Development (BUILD) program for the realignment of the Pell Bridge ramps in Newport. The improvements are designed to reduce traffic congestion that backs up onto the bridge, enhance safety, and improve access to the historic City.
- In 2016, RIDOT accelerated its planned reopening of the I-95 Welcome Center along I-95 North between exits 2 and 3.
- The Broad Street Regeneration Initiative is a collaborative effort between Central Falls, Cumberland, Pawtucket, and the Blackstone Valley Tourism Council to engage local community leaders and mobilize local businesses, residents and other stakeholders towards the revitalization of Broad Street.



4 The Rhode Ahead

Vision: This Plan envisions a multimodal transportation network that connects people, places, and goods in a safe and resilient manner by providing effective and affordable transportation choices that are supportive of healthy communities, provide access to jobs and commercial centers, and promote a sustainable and competitive Rhode Island economy.

This document highlights the breadth of services the transportation network provides from commuting and freight transport to tourism and recreation all across several modes that are changing and evolving at a faster rate than ever before. Based on historic data and discussions with stakeholders numerous system needs were identified. Ultimately, identified needs were grouped into one of three themes.

Needs

ASSET MANAGEMENT

It is a top priority of this LRTP to address asset maintenance. No other need can be addressed if the existing network is neglected and allowed to deteriorate. An example of the critical need for asset maintenance is best characterized by the condition of bridges in the state. Federal targets limit structurally deficient bridges to 10 percent. Currently, 24 percent of bridges are structurally deficient. Through the 10-year State Transportation Improvement Program a path toward achieving less than 10 percent is identified. In the remaining 10 years an emphasis must be placed on advancing maintenance and enhancement programs for bridges and other assets such as pavement, sidewalks and paths, and roadside and signal equipment. Planning for network-wide asset management provides an opportunity for additional improvements and modernization. As each asset is systematically reviewed, enhancements such as ADA needs, incorporating multimodal facilities, or modernizing through technology implementation supportive of a CAV future can become possible.

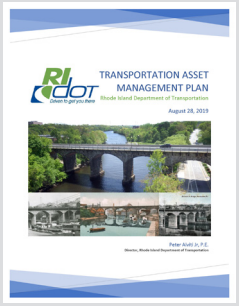
REDUCING VEHICLE MILES TRAVELED

Travel in Rhode Island is car-centric likely due to relatively shorter trips and manageable congestion. This trend results in ever-rising vehicle miles traveled (VMT) and continued increases in greenhouse gas emissions. Rhode Island's Executive Climate Change Coordinating Council (EC4) set a VMT reduction target of two percent by 2035 and 10 percent by 2050 (2014 baseline).Yet, between 2014 and 2019, VMT increased making this target continually more challenging. Reducing vehicle miles traveled requires a multipronged approach. The traveling public needs more choices. For many, a personal automobile seems like the only reasonable choice. Providing more choices means growing and maintaining the non-motorized and transit networks to connect more neighborhoods with areas of demand and improving travel efficiency. Changes to policy and specifications are necessary to fully realize a change in how projects are prioritized and implemented. With the ultimate goal of reducing greenhouse gas emissions, the state can also work toward making electric vehicles a more effective choice by investing in supporting infrastructure.

SUPPORTING ECONOMIC DEVELOPMENT

Transportation is woven into everyone's lives and all areas of the economy in large and small ways. As such, investment in transportation should be supportive of economic development. The transportation network needs to support the efficient movement of people and goods. Quonset Business Park in North Kingstown, TF Green Airport in Warwick, and the Port of Providence are critical freight hubs relying on a network of road and railways. Transportation can also be used to attract business and investment. This ranges from ensuring a local business has reasonable access to the transportation network to working with large employers to provide multimodal network capacity. The significant residential and commercial development around Providence Station demonstrates how attractive multi-modal access can be. The Amazon Headquarters 2 request for proposals also outlined modern transportation needs for e-commerce and freight and a growing modern workforce. Rhode Island is well-positioned on the Northeast Corridor and within commuting distance of the greater Boston area. As such, transportation investments to improve connectivity and mobility both within our state and with greater Boston will make Rhode Island a more attractive location to live, work and visit.

Ongoing Initiatives



ASSET MANAGEMENT PLAN

Rhode Island's top transportation priority is improving and maintaining the condition of roads and bridges. The pursuit of long term bridge and pavement sufficiency has the single largest influence on RIDOT's investment strategies and long-term financial planning. The Asset Management Plan lays the foundation for achieving and maintaining a State of Good Repair for our highway network through strategic spending initiatives. The plan also addresses highway safety, modernization of day-to-day operations and maintenance activities, environmental protection, and overall roadway operations and congestion reduction.

CONGESTION MANAGEMENT PROCESS & PLAN (CMP)

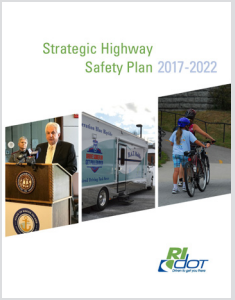
The Congestion Management Process & Plan (CMP) was developed to help alleviate traffic congestion in Rhode Island. The CMP lays out an eight-step process that helps determine congestion and its causes, develops monitoring processes to measure transportation system performance and reliability, develops congestion management strategies and steps to moves those strategies into the funding and implementation stages. The plan identifies the locations of most severe congestion and calls for investment in projects that mitigate traffic bottlenecks and points of recurring traffic congestion.

BICYCLE MOBILITY PLAN (BMP)

The BMP sets outs a long term framework for improving bicycle facilities in the state and calls for prioritized investments in bicycle infrastructure, including creating a connected network of on and off-road bicycle infrastructure as well as a Statewide Greenway Network that appeals to Rhode Island residents of all ages and ability levels as well as seasonal visitors. The visionary plan seeks to increase the lengths of shared-use paths from the current 75 miles to 213 miles. Other improvements sought include expansion of: separated or buffered bicycle lanes from 3 miles to 33 miles; 5-foot wide standard bicycle lanes from 22 miles to approximately 277 miles; and, signed shoulder bikeways from 117 miles to 254 miles of shoulder bicycle lanes.

TRANSIT MASTER PLAN (TMP)

The TMP provides a vision for how transit could modernize travel in Rhode Island and calls for prioritized investments in bus operations to increase the frequency and span of service, improve reliability, and to introduce more high capacity transit options including bus-on-shoulder, rapid bus, regional rapid bus, bus rapid transit and light rail (or potentially light rail).

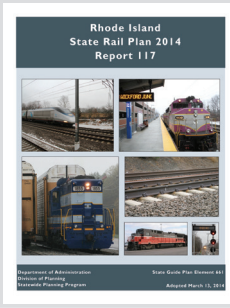


STRATEGIC HIGHWAY SAFETY PLAN (SHSP)

RIDOT is committed to improving public safety throughout Rhode Island by continually monitoring conditions making improvements to state bridges and roadways. The SHSP supports this objective, outlining a five-year transportation safety plan to engage key safety stakeholders and a ten-year plan to work toward zero transportation-related deaths. This plan along with supporting safety initiatives calls for investment in highway safety projects and programs that support a reduction in fatalities by half by 2045.

FREIGHT AND GOODS MOVEMENT PLAN

The efficient movement of freight is a key objective of transportation planning and the Freight and Goods Movement Plan. This plan identifies areas of improvement that will help move freight more safely and efficiently. Major investments called for in this plan include repairing highway bridges and improving the capacity, condition and safety of travel corridors used for freight shipping. The plan also outlines environmental concerns associated with freight movement and calls on the state to continue and expand participation in the Northeast Diesel Collaborative, Ozone Transport Commission, and Transportation Climate Initiative.



STATE RAIL PLAN AND MATRIX SUPPLEMENT

This 2014 plan addresses Rhode Island's passenger and freight rail transportation needs over the next twenty years and was updated in 2020 with a new 4- and 20-year Program of Projects. The Rail Plan provides the framework for planned and potential future rail service improvements and expansion, and their related benefits. Major initiatives include better rail service to Boston, rail siding and loading/ unloading improvements at the Port of Providence and Quonset/Port of Davisville, and a new Amtrak rail platform at TF Green Airport.

INNOVATE RI 2.0

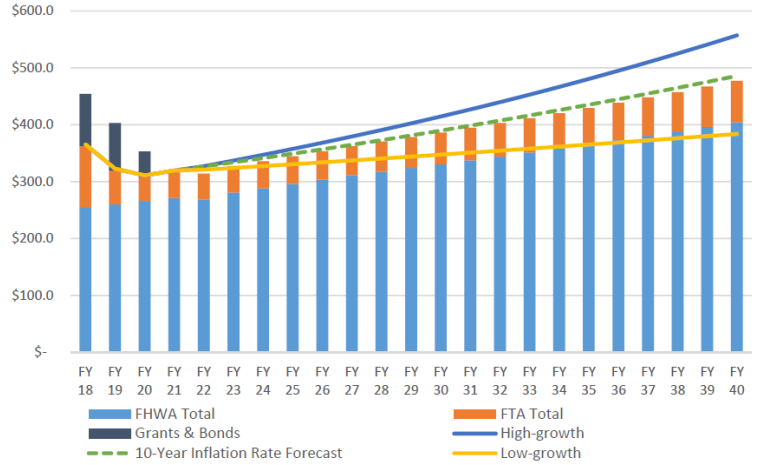
The latest Economic Development Plan for the State of Rhode Island expands on the 2016 Brookings Report that identified new areas of high-value economic growth that could offset losses in the state's manufacturing base. The Brookings Report identified five advanced industry clusters best positioned for growth in Rhode Island and identified "Transportation" and investment in "Quality of Place" as opportunities for the state. Innovate RI 2.0 expands on the previous study with additional analysis to provide concrete guidance on creating advanced industry policies in the state. Among those policies, Innovate RI recommends making continued strategic investments around surface transportation (e.g., roads, bridges, rail stations, transit, bike paths) through the RhodeWorks Program, as well as green infrastructure (e.g., energy efficient buildings, climate mitigation) through the State Infrastructure Bank. Innovate RI 2.0 also recommends intensifying quality of place initiatives, including investment in city and town centers through implementation of the Transit Master Plan. Rhode Island's Transit Master Plan identifies mixed-use transit oriented development (TOD) around transit hubs as a key goal to improve quality of place and commercial vibrancy.

Financial Plan: Current Funding

CURRENT & PROJECTED REVENUES

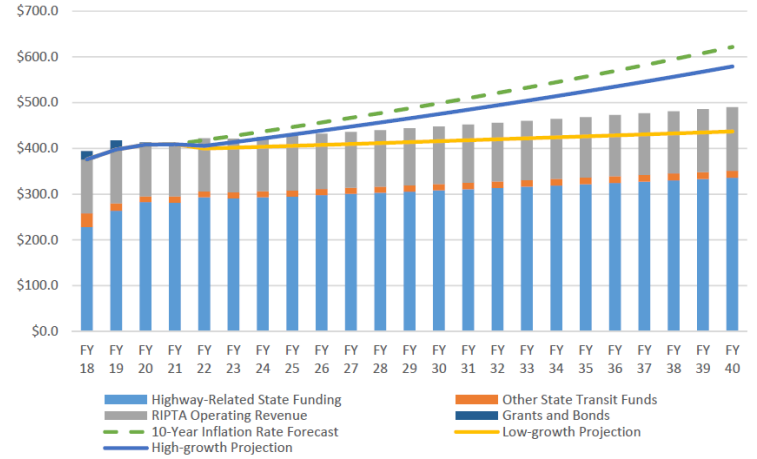
Federal and State revenue sources are projected to remain nearly flat through the year 2040 with Federal funds keeping pace with inflation and state funds falling short. Revenue linked to the current STIP show the value of grants and bonds, including INFRA, BUILD, and TIGER, to accomplish major capital projects. Additional details regarding the Federal and State funding projections can be found in the Revenue Projections Report (Appendix F).

Federal Funding Sources



High-growth assumes inflation of 3% annually.
Low-growth assumes inflation of 1% annually.

State Funding Match Sources



High-growth assumes inflation of 2% annually.
Low-growth assumes inflation of 0.5% annually.

CURRENT TRANSPORTATION SPENDING

The Statewide Transportation Improvement Program funding $730 million annually over the next 10-years on transportation needs. Bridge and pavement make up nearly 50% of spending, which aligns with critical infrastructure needs.

RIPTA's Downtown Transit Connector Project

MAJOR CAPITAL PROJECTS

- Route 37 Safety Sweep
- Providence Station
- Cranston Canyon
- Providence Station State of Good Repair and Capacity Improvements
- *I-95 Viaduct Northbound**
- Route 6/10
- *Pawtucket-Central Falls Station**
- *Henderson Bridge Project**
- *Washington Bridge Project**
- *Route 146 Improvements**
- *Downtown Transit Connector**
- *Eastside Tunnel**
- Truck Tolling Facilities
- *Pell Bridge Project**
- *Pawtucket Bus Hub**
- *URI Transit Hub**
- *CCRI Transit Hub**

TRANSPORTATION PLANNING

- *TF Green Airport Intercity Rail Service Preliminary Engineering**
- *I-95/Route 4 "Missing Move" final link**

**Grant or bond funded*

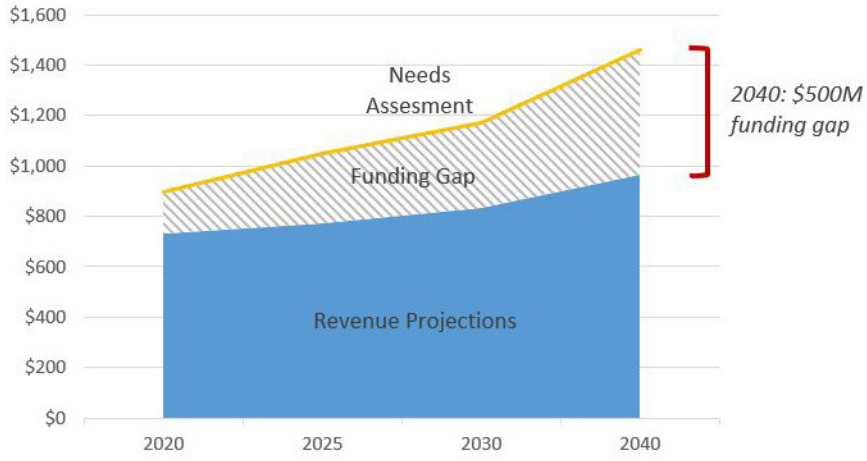
Financial Plan: Future Investments

Project needs and ultimately funding needs are driven by the goals and objectives set by this LRTP and its supporting plans. The current approach to program funding reflects the importance of **maintaining existing infrastructure**. Regardless of mode, the transportation network is critical to everyday lives. Without roadways, buses, paths, sidewalks, or railways, the movement of people and goods will be constrained. **Investments to strengthen these assets support the quality of places to live and work.**

Reducing vehicle miles traveled will reduce greenhouse gas emissions, subsequently improving the places we live and work and protecting them for future generations. Balancing these needs against declining funding is the greatest challenge of this LRTP.

Looking to the year 2040, this plan continues to emphasize the importance of maintaining the physical infrastructure that makes up the transportation network, the backbone for all modes. Based on conversations with the various plan stakeholders, the allocation of funding is assumed to remain the same as today through the year 2040. As shown, funding levels are not projected to keep up with needs. Revenue projections are anticipated to cover about 60% of network needs. That funding gap will mean different things for different programs.

- **Bridge:** Providing funding to ensure the safety of state bridges has been a priority and will continue to meet the goal of less than 10% of bridges structurally deficient. The recent shift toward funding bridge maintenance needs continues to be reflected in the current funding allocation and there is a plan to reach the <10% goal. This target is represented in the State Transportation Improvement Program 10 Year Plan (FFY 2018-2027) and the Long Range Transportation Plan extends necessary funding through 2040. As generations of bridges continue to age, an additional bump in Bridge funding need is anticipated in the mid-2030s.
- **Pavement:** Using FHWA performance measures as a benchmark, targets for each tier of roadway type can be met. Targets vary for interstate highways, roadways in the National Highway System (major arterials), and all other roadways. Pavement assets are projected to meet sufficiency for 95% of interstates, 80% of other National Highway System, and 80% of other roadways.
- **Traffic:** Funding for the Traffic program areas covers several different areas including asset management needs on related infrastructure (e.g. highway lighting, guardrail, traffic signal systems, ITS equipment). Traffic funds are also a means for reducing vehicle congestion through increased roadway capacity, however there is no intention to add significant lane miles to the roadway network. Through the LRTP and Congestion Management Process, several bottlenecks were identified around the State. Resolving these bottlenecks would improve traffic progression and movement of goods and people. Based on funding projects, if asset maintenance is prioritized then nearly no funding will remain for operational improvements.
- **Safety:** The State has held the goal of moving Toward Zero Deaths since 2010. This means reducing transportation fatalities by 50% by the year 2030. At the halfway point in that plan the State is trending slower for achieving this target. Based on the assumed funding allocation for safety, reducing fatalities by 50% could be achievable by 2045. This assumes that traffic safety funds would be limited to the Highway Safety Improvement Program allocation from FHWA, no additional funds due to needs in other areas.



- **Transportation Technology:** Expanding the use of transportation technology ranges from continued support for ITS equipment needs and infrastructure to planning for future technologies such as connected and autonomous vehicles. With a funding gap in basic traffic operations it is unlikely that expanded traffic technology investment would be possible, unless prioritized over other traffic needs. Often, transportation technology needs are bundled into larger projects. This approach of bundling needs into multidimensional projects will be a valuable strategy to continue for all program areas moving forward.
- **Transit:** Funding needs for transit are linked closely to the Transit Master Plan prepared in conjunction with this plan. The funding needs in the TMP represent projects, initiatives, and service expansions to achieve a new transit vision for Rhode Island. Beyond the funding documented in this LRTP, there is another $194M annually over 20 years in needs for transit to achieve the full transit vision.
- **Bicycle/Pedestrian:** Much like technology needs, bicycle and pedestrian needs are often met through project bundling with Bridge, Pavement, and Safety projects, and auxiliary programs like Transportation Alternatives. While this approach has provided many enhancements, it does not always address the most critical needs or systematic network expansion. In order to make progress and get ahead on asset maintenance for paths and ADA compliance, additional funds or funding sources will be needed. Most recently, sources such as the Green Economy Bond have helped address the need to build-out the non-motorized network.
- **Planning:** Planning provides several functions including statewide planning, bicycle and transit planning, project programming, data collection, and civil rights reviews.
- **Drainage:** The Drainage Program is directly related to Stormwater Consent Decree Compliance and includes a comprehensive plan to inspect and inventory Rhode Island's statewide highway drainage systems. The Drainage Program is also responsible for the development of Stormwater Control Plans (SCPs), the design and construction of Structural Treatment Units (STUs), and the implementation of non-structural Best Management Practices (BMPs).
- **Other Transportation Investments:** This category includes primary department administration and operations (Headquarter Operations, Contingency, Debt Service, and Toll Operations). It also includes Maintenance (snow/ice removal, mowing, sweeping) and Transportation Alternatives.

THE FUTURE OF TRANSPORTATION FUNDING

Transportation funding challenges are multi-faceted. Revenues for transportation funding are not projected to keep pace with inflation, meaning that **future spending power is not projected to keep pace** with the existing value. Furthermore, a key source for state transportation funding is the gas tax. Increases in the gas tax (one penny per gallon every other year) do not keep pace with inflation. Additionally, improved vehicle fuel efficiency and the LRTP goal of reducing VMT both will lead to reductions in gas purchases and therefore, **reduced gas tax revenue**.

Maintaining, much less growing, transportation revenue will require new funding sources. In the near-term grant and bond funding opportunities have been a method for funding major capital projects. Relying on these discretionary sources is not a reliable approach to funding and cannot be assumed for a **dedicated funding stream**.

Moving forward, Rhode Island will need to consider new dedicated funding streams.

Fiscally Constrained Approach

2040 LRTP INVESTMENT GUIDING PRINCIPLES

- Maintaining and preserving investments in infrastructure is a top priority. Without a safe and reliable infrastructure the movement of people and goods by any mode is inefficient.
- Expanding transportation choices reduces barriers to traveling and opens up new mobility opportunities across modes.
- Investments in community and people focused transportation also improves quality of life and quality of place.
- Single occupant vehicles and high rates of vehicle miles traveled are a top contributor of CO_2 emissions. Projects and policies that reduce vehicle emissions, expand transportation choices, and shorten vehicle trips present opportunities to promote environmental sustainability.
- Transportation is a resource for attracting and inspiring economic growth. The infrastructure is both a physical backbone for the economy (responsible for moving people and products) and a resource to communities and businesses helping to create quality places for living and working.
- Continue to identify opportunities for project bundling as a study, development and implementation strategy. Project bundling can be a tool to satisfy a range of transportation needs, across modes, while remaining cost efficient.

The following table summarizes the anticipated transportation spending by source (Federal or State & Local). This is presented on an average annual basis. This table does not predict potential grant or bond funding which will go a long way to support major transportation projects. Additional details regarding how transportation expenditures were determined can be found in the Fiscal Constraint Table (Appendix R).

Anticipated Transportation Expenditures over the Next 20-Years

	2021-2025	2026-2030	2031-2040
Expenditures			
Bridge	$336.6	$163.0	$195.6
Pavement	$78.7	$142.9	$140.0
Traffic Safety	$36.6	$51.2	$74.8
Planning	$12.9	$17.4	$23.6
Drainage	$15.4	$25.5	$36.9
Transit	$80.9	$122.6	$173.9
All Other	$230.6	$224.2	$257.4
Total*	**$791.6M**	**$746.8M**	**$902.2M**
Revenue			
Federal	$329.2	$370.3	$434.8
State & Local	$420.9	$439.8	$470.6
Total*	**$750.0M**	**$810.1M**	**$905.3M**

Note: Revenue projections include dedicated funding sources, but do not include discretionary grant or bond funding, which can increase funding significantly. Refer to the State Transportation Improvement Program (STIP) for details regarding funding sources and programming.

* Totals may not sum due to rounding.

5 Measuring Performance and Outcomes

Since the state's last LRTP there has been tremendous progress on transportation and demographic data availability. From the beginning planning phase of this 2040 LRTP, an important outcome involved leveraging better data availability in the areas of traffic volume, congestion, origin-destination patterns, population, employment, and infrastructure condition. These datasets are available through a combination of open source and publicly available cellphone location tracking data, as well as initiatives from state agencies to automate, standardize, and share data collected. As a result, the LRTP goals, objectives and strategies are underpinned with data-driven performance measures that can be quantified and regularly updated for progress, including creation of a performance metric dashboard. Additional details regarding performance measures and targets can be found in the Performance Measures and Target Setting Report (Appendix G).

GOAL

Connect People and Places

across all modes and options for more efficient and effective travel

OBJECTIVES

EXPAND CONNECTIVITY ACROSS MODES | **REDUCE TRAVEL CONGESTION** | **IMPROVE REGIONAL CONNECTIVITY**

STRATEGIES

- Focus on intermodal connections such as improved pedestrian and bicycle connections to transit stations and appropriate types and siting of bike parking
- Provide incentives for use of active and public transportation
- Study and implement transportation management systems and other technologies to reduce congestion and lower emissions
- Remain engaged in and aware of emerging technologies
- Identify priority networks for all modes based on connectivity and access to destinations; integrate priority networks into decision-making
- Encourage coordination in investment and operations among transportation stakeholders
- Use real-time data to improve user confidence in transportation systems
- Pursue strategic shared mobility partnerships

Performance Measures	Baseline	2040 Target
» Percent of the Person-Miles Traveled on the Interstate that are Reliable*	78.2%	71.6%
» Percent of the Person-Miles Traveled on the Non-Interstate NHS that are Reliable*	77.6%	77.3%

Tracked Measures	Baseline	2040 Target
» Transit ridership	17,490,243	upward trend
» On-time performance for RIPTA service	79%	upward trend
» Number of bottlenecks in the NHS	28	downward trend

* Travel Time Reliability is the consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day (FWWA)

GOAL

Maintain Transportation Infrastructure

to create a reliable network providing adequate travel choices

OBJECTIVES

- **DESIGN ROADWAYS TO INCREASE TRANSPORTATION CHOICES**
- **ACHIEVE A STATE OF GOOD REPAIR**
- **ENHANCE TRANSPORTATION NETWORK RESILIENCY**
- **ENHANCE TRANSPORTATION SAFETY**

STRATEGIES

- Identify and prioritize multimodal solutions that have a high return on investment
- Facilitate coordination from partners across transportation modes to work together to improve safety and mobility for all travelers
- Collaborate with local, regional, state and federal planning efforts to ensure efficient and coordinated response to special, emergency and disaster events
- Embrace opportunities for project bundling not simply replace in-kind; potential enhancements, such as multimodal facilities, armoring against extreme weather, ADA needs, improving safety
- Focus asset management resources to identified priority infrastructure
- Utilize the Transportation Asset Management Pan to make data-driven decisions
- Use best practices to maintain assets and reduce life cycle costs

Maintain Transportation Infrastructure (continued)

Performance Measures	Baseline	2040 Target
» Percentage of Pavements of the Interstate System in Poor Condition	0%	≤5%
» Percentage of Pavements of the Non-Interstate NHS in Poor Condition	20%	≤20%
» Percentage of NHS Bridges in Poor Condition (Structurally Deficient)	24%	<10%
» Rolling Stock (Fixed Route Bus, Paratransit, Flex): The percentage of revenue vehicles that exceed the useful life benchmark (ULB)	16%, 55%, 35%	16% 35%, 35%
» Equipment: The percentage non-revenue service vehicles (by type) that exceed the ULB	44%	56%
» Facilities (Admin/Maintenance, Passenger): Percentage of facilities within an asset class rated below 3.0 Transit Economic Requirements Model (TERM) scale	0%, 100%	0%, 0%
» No. of annual traffic fatalities (5 year avg)	59	25
» No. of annual traffic serious injuries (5 year avg)	351	163
» No. of ped./bike annual traffic fatalities and serious injuries (5 year avg)	78	47
» No. of transit fatalities	TBD	TBD
» No. of transit injuries	TBD	TBD
» No. of transit safety events	TBD	TBD
» Mean distance between major mechanical failures (fixed route)	TBD	TBD
» Bicycle Dedicated Lane Miles	100	310
» Bus Transit Dedicated Lane Miles	0.8	18.1

Tracked Measures	Baseline	2040 Target
» No. of bridges vulnerable to sea level rise	77	downward trend
» Miles of roadways vulnerable to sea level rise	84	downward trend
» No. of intermodal hubs vulnerable to sea level rise (freight, passenger)	6, 2	downward trend

GOAL

Strengthen Communities

through the local transportation network to enhance travel, place, and quality of life

OBJECTIVES

IMPROVE INDIVIDUAL AND COMMUNITY HEALTH | **FOSTER SOCIAL EQUITY** | **ENCOURAGE CONNECTED COMMUNITIES**

STRATEGIES

- Identify and give priority to improvements that encourage mode shift (intermodal connections, bike and pedestrian infrastructure in more densely developed cities).
- Support and encourage municipalities to adopt and effectively implement Complete Streets Ordinances.
- Support and encourage municipalities to adopt Transit-Orientated Development (TOD) Ordinances.
- Promote regional TOD funds that leverage public resources with private-sector investment to provide flexible capital funding for TOD projects.
- Explore ways to ensure that transportation investments benefit existing residents and businesses, low-income and disadvantaged communities, and minimize displacement.
- Ensure that public transportation is accessible, affordable, frequent, and gets people where they need to go.
- Consider transportation investments that support better connected land use.
- Encourage local governments to adopt and implement smart growth/compact growth policies that can support more connected and mixed land use patterns.
- Expand the sidewalk network and improve the quality of existing sidewalks and crossings in urban centers and in the vicinity of mobility hubs (e.g. Kennedy Plaza, Providence Station, Pawtucket/Central Falls Station).

Performance Measures	Baseline	2040 Target
» % of population within 1/4 mile of a dedicated bike facility	15.6%	50%

Tracked Measures	Baseline	2040 Target
» Number of cities/towns with Complete Streets Ordinances	1	upward trend
» Transportation Equity Benefit Analysis (TEBA)	65.8%	upward trend

GOAL

Promote Environmental Sustainability

by prioritizing non-single occupancy vehicle focused strategies and investments

OBJECTIVES

REDUCE VEHICLE MILES TRAVELED

REDUCE TRANSPORTATION GREENHOUSE GAS EMISSIONS

CREATE NETWORK OF OPEN SPACE, TRAILS, AND PATHS

STRATEGIES

- Fund and promote transportation alternatives to drive-alone trips, particularly public transportation options.
- Pilot and develop mileage-based road pricing strategies as an alternative to the gasoline tax.
- Encourage local governments to adopt and implement smart growth/compact growth policies than can support more connected and mixed land use patterns.
- Encourage state agencies to work together within the Municipal Resilience Program at the RI Infrastructure Bank and with municipalities across the state to support comprehensive climate resilience planning.
- Promote parking reduction in areas where viable transportation alternatives exist.
- Explore creation of Low-Emission Vehicle zones for designated sensitive areas, such as residential areas and congested urban centers.
- Monitor major transportation sources of greenhouse gas emissions (e.g. port operations) and develop reduction countermeasures.
- Develop a public benefit electrification policy to govern Utilities' role in public fleet electrification.
- Create dedicated state funding to leverage local funds to expand, improve or create new open spaces connected by trails and paths (e.g. Green Economy Bond).
- Actively facilitate inter-governmental and inter-agency planning to connect open spaces, trails and pathways, including provision of technical assistance if needed.
- Support active transportation, transit, shared mobility, infill development, and land use densification (e.g. TOD, arterial corridor planning).
- Collect bike miles traveled data.
- Establish a Mobility Innovation Working Group to advance a state-level investment strategy to build support for the Transportation and Climate Initiative (TCI) in Rhode Island.

Performance Measures	Baseline	2040 Target
» Vehicle miles traveled annually	8,197	7,310

Tracked Measures	Baseline	2040 Target
» Number of registered electric vehicles	1,345	upward trend

GOAL

Support Economic Growth

through transportation connectivity and choices to attract employers and employees

OBJECTIVES

EXPAND CONNECTIVITY ACROSS MODES | **REDUCE TRAVEL CONGESTION** | **IMPROVE REGIONAL CONNECTIVITY**

STRATEGIES

- Continue efforts to enhance strategic investments around surface transportation (e.g., roads, bridges, rail stations, transit, bike paths) via the 2016 RhodeWorks legislation.
- Intensify quality of place initiatives that invest in city and town centers as critical nodes in the state's transit planning
- Provide ample opportunities for adapting successful transit-oriented development efforts.
- Work to maximize efficient multimodal connections at TF Green Airport.
- Improve and expand ferry services to/from Providence Ferry Terminal.
- Form partnerships with MPOs, DOTs, transit providers, and municipal transportation departments across state lines to plan for and invest in regional mobility enhancements (e.g. expanded MBTA service).
- Coordinate cross-border transit service throughout the Providence and Westerly/New London urbanized areas.
- Form partnerships to promote non-SOV transportation and to engage in mobility service cost-sharing (e.g. mobility hubs, bike and scooter sharing).
- Improve freight operations and intermodal freight connections (e.g. ProvPort, Port of Davisville multimodal access).
- Ensure proactive involvement of tourism groups—such as Visit Rhode Island—in the transportation planning process.
- Improve and expand multi-use trails throughout the state, and work to connect to key destinations and points of interest (leverage the Green Economy Bond).
- Collect relevant transportation data related to tourism and use in transportation planning efforts.
- Explore the possibility of establishing a Port Authority of Galilee and evaluate long term options for development, parking, transportation access and management decisions.
- Encourage state agencies to work with towns (specifically those supporting summer tourism) on implementing transportation improvements that could improve safety including continued expansion of sidewalks along state-owned roads in village areas and exploring improvements to bicycle transportation.

Support Economic Growth (continued)

Performance Measures	Baseline	2040 Target
» Truck Travel Time Reliability (TTTR)	1.72	1.96
» Percentage of construction projects on-time	100%	100%
» Percentage of construction projects on-budget	100%	100%

Tracked Measures	Baseline	2040 Target
» Residents within 1/2 mile of frequent transit	376,090	upward trend
» Jobs within 1/2 mile of frequent transit	200,923	upward trend
» Number of electric vehicle charging stations	117	upward trend

6 Implementation

Vision: This Plan envisions a multimodal transportation network that connects people, places, and goods in a safe and resilient manner by providing effective and affordable transportation choices that are supportive of healthy communities, provide access to jobs and commercial centers, and promote a sustainable and competitive Rhode Island economy.

Transportation plans, such as this LRTP, represent an amalgamation of a vision, goals, objectives and strategies. Achieving the stated vision and goals will be realized through implementation of the specific objectives and strategies. This implementation chapter details a program designed to advance the objectives and strategies, ultimately leading to realization of the vision.

This implementation chapter is an important component of the LRTP intended to outline actions to achieve the aforementioned objectives and strategies. The LRTP is an "umbrella" plan that is comprised of several mode-specific plans that each establish specific priorities and implementation strategies. The previous section highlights the strategies needed to achieve each goal/objective:

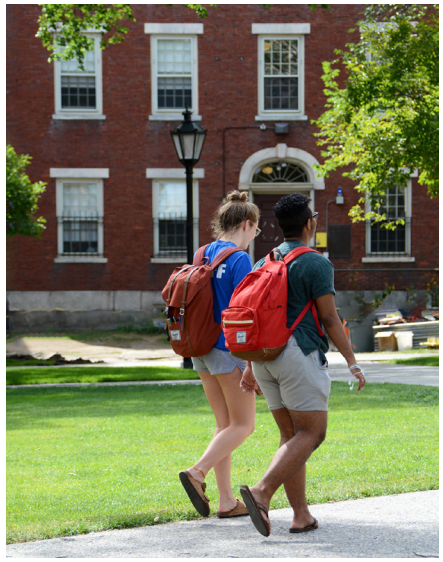
- Connecting people and places
- Maintaining transportation infrastructure
- Strengthen communities
- Promote environmental sustainability
- Support economic growth

The LRTP emphasizes investment across all types of geographies within Rhode Island—rural areas, suburban areas and the State's city and town centers. Connectivity between these varied and vibrant geographies is paramount, and the State should strive beyond our borders to ensure there is economic synergy with our neighbors.

Recommendations: The Next 5 Years

Moving beyond this Long Range Transportation Plan, the Rhode Island Division of Statewide Planning (RIDSP), Rhode Island Department of Transportation (RIDOT) and Rhode Island Public Transit Authority (RIPTA) are committed to the projects and policies needed to track on the vision of this plan. In addition to key projects programmed into the State Transportation Improvement Program (STIP), many new initiatives and efforts are anticipated as the State moves forward. These first steps toward establishing a strong foundation for achieving the vision are outlined below.

- **Maintaining Infrastructure:** As the RhodeWorks asset management initiative to fund and systematically address infrastructure maintenance on bridges and roadways continues through the year 2031 the state set a strong backbone for future transportation improvements.
- **Project Bundling:** RIDSP, RIDOT and RIPTA have begun the process of geolocating transportation assets, needs, and projects in order to improve project planning and bundling. This approach will improve the State's ability to provide multimodal transportation improvements in a cost-effective manner.
- **Intermodal Connectivity:** Increasing congestion and travel delay will continue to be a challenge. Focusing on intermodal connectivity as an approach to increasing travel capacity will be an important tool moving forward
- **E-STIP:** RIDSP has been developing an online STIP application (E-STIP) for municipalities to apply for transportation improvement funding. This will more seamlessly link together data collection, data tracking and project bundling in a way that is transparent for users.
- **GHG Analysis:** As the critical threat of climate change continues, the role of transportation as a solution must be considered. Expanding capabilities and use of analysis for quantifying greenhouse gas impacts will continue.
- **Data Collection:** Data-driven decision-making continues to be a priority for all agencies. The State will continue to invest in and unify data to develop comprehensive and effective databases and share that data with the public.
- **Shifting toward the STIP:** With this long range planning process complete, RIDSP, RIDOT, and RIPTA will shift focus back to the 10-year STIP and implementing key projects.



Future Projects

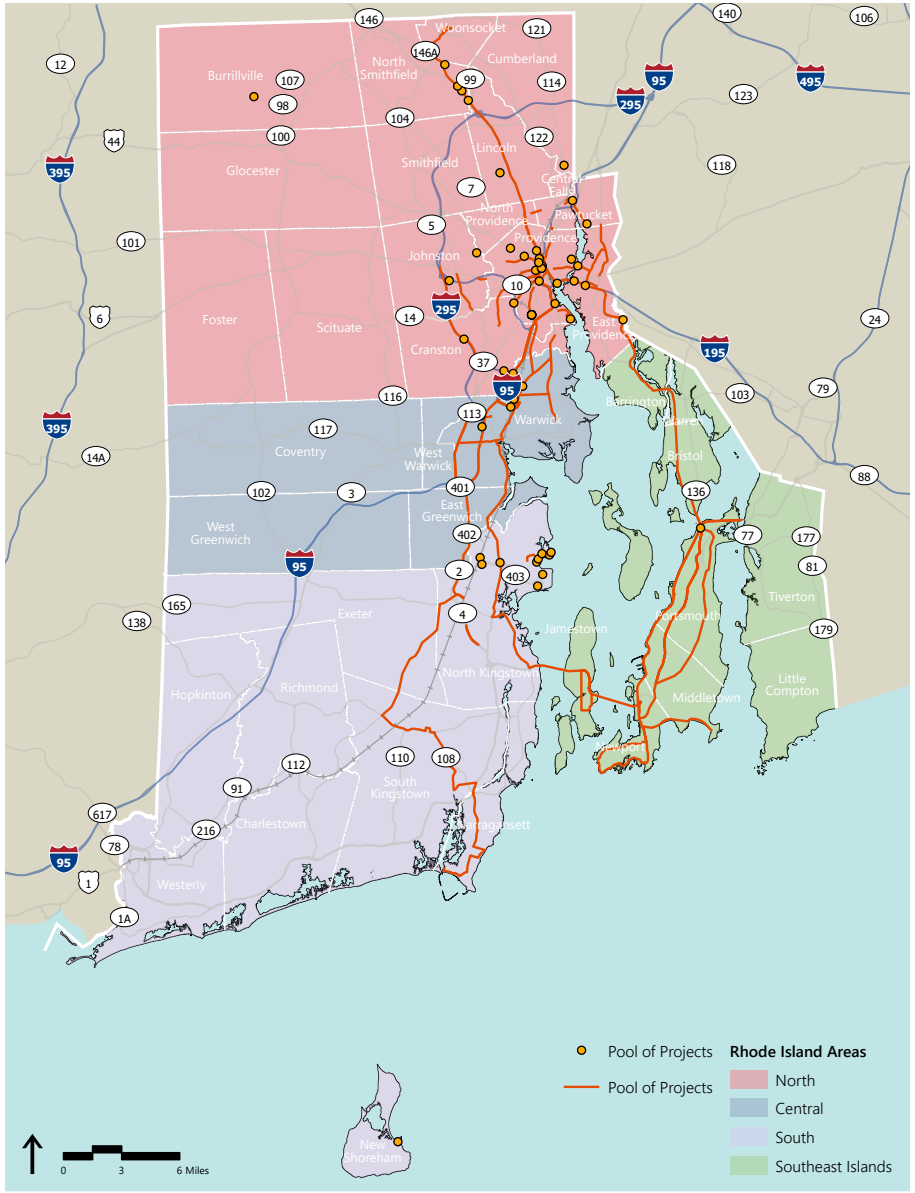
This section summarizes Key Projects identified through this LRTP process. Each project has been mapped and documented in a geodatabase. A table describing in more detail the projects in this plan can be found in the Pool of Projects (Appendix E). Projects fall into one or more of the following categories.

- **Next Five Years:** Key projects that have been programmed and have a clear funding source.*
- **Future Projects:** Programmed and future projects (beyond the Next Five Years) under consideration.
- **Regionally Significant Projects:** Projects are defined by USDOT as a transportation project on a facility which serves regional transportation needs.

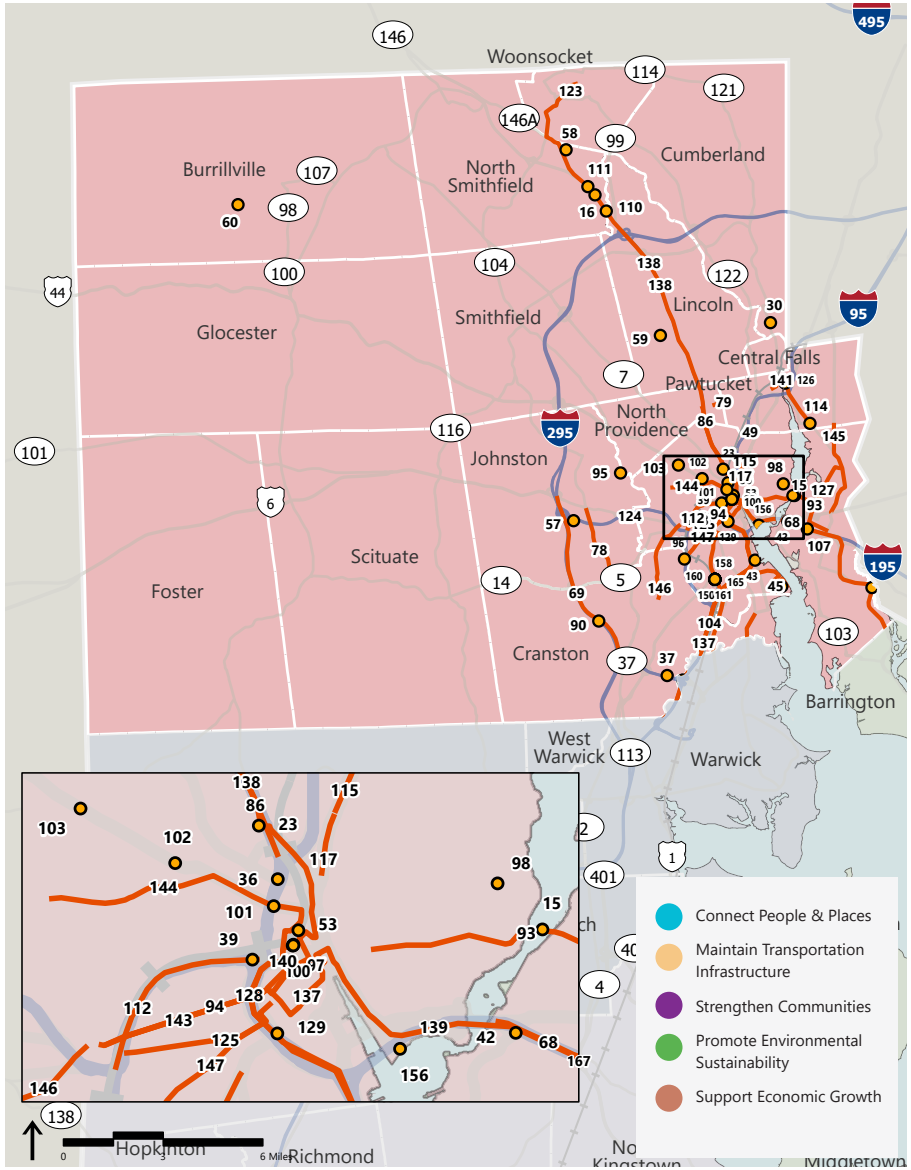
In addition to key projects, the LRTP has identified some key initiatives underway at the State and Local levels that are not geo-located, however, are important to the vision and goals of the Plan.

- Continued support and expansion of municipal transportation initiatives such as Providence Great Streets or Walk/Bike PCF (Pawtucket, Central Falls)
- State initiative to reach 100% renewable energy through expanded state and RIPTA fleet electrification
- Systemwide RIPTA Fleet Electrification
- Improved RIPTA service (frequency, span of service) and additional transit vehicles needed to support those improvements with a goal of 15 minute or better service frequency.
- Regional and Community Mobility Hubs development and construction. Hubs will serve as a focal point for multimodal mobility options on the regional or local level.
- Upcoming Newport Transportation Master Plan is anticipated to develop a vision and key projects for improving transportation in Newport and the Newport region.

*This list is not intended to be inclusive of the State Transportation Improvement Program. STIP projects can be viewed: http://www.planning.ri.gov/planning-areas/transportation/tip.php



Future and Visionary Projects By Region



North—Providence County and Metro Providence

The North region varies greatly. Project are focused within the Metro Providence area (including Cranston, Pawtucket, Central Falls and East Providence). Transportation in these areas can be congested, there is greater travel demand, and higher residential and job densities. Outside these Metro communities, projects are focused on major arterials.

NEXT 5 YEARS

- 55–Increase Rail Frequency Boston-Providence
- 86–Bus on Shoulder Rt. 146 SB (Mineral Spring to Downtown
- 95–Woonasquatucket River Greenway
- Red Bridge (Henderson Bridge) Replacement Project
- RIPTA Transit Priority Improvements (various routes)

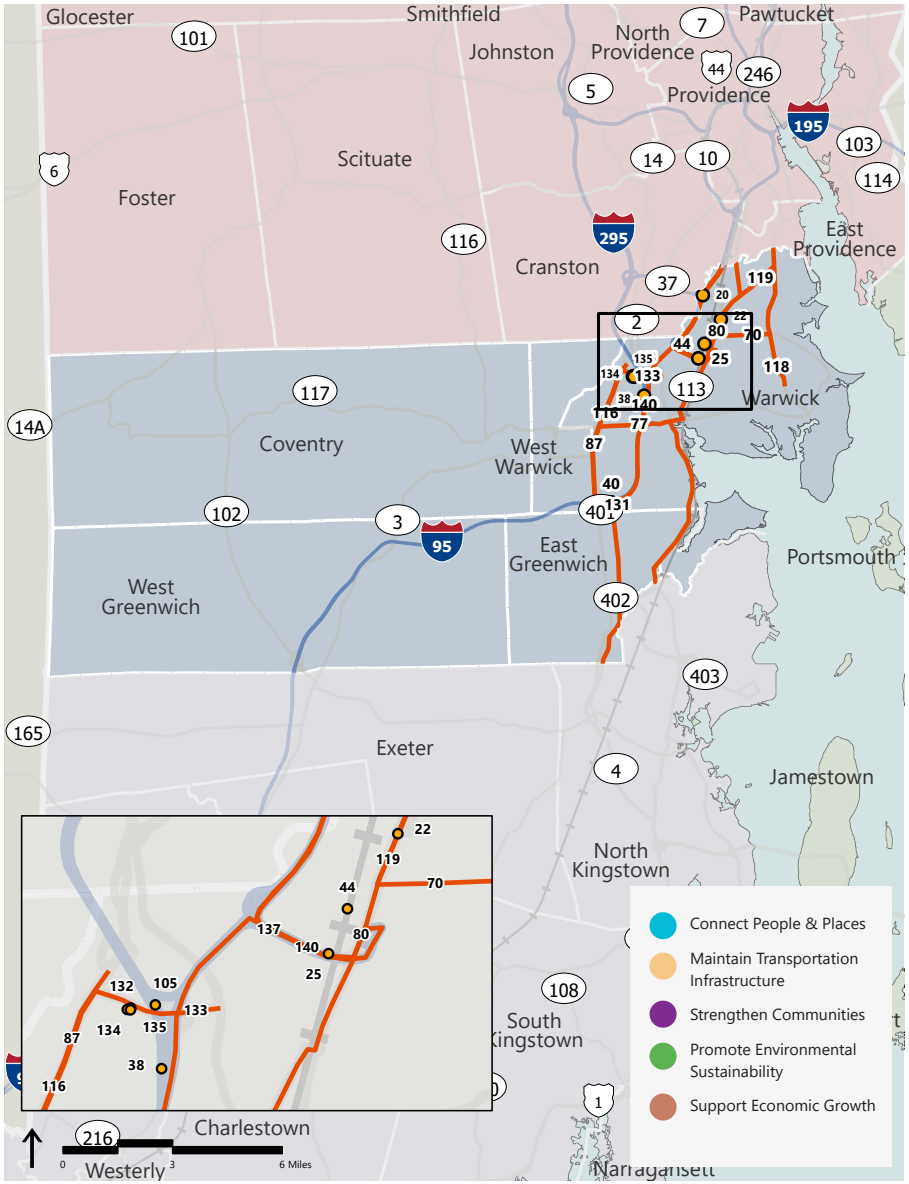
FUTURE PROJECTS

- 19–Create access from Port of Providence to I-95 S
- 36–Resolve bottleneck I-95 S at Route 146 C
- 96, 97, 98–Fill gaps along East Coast Greenway
- 104, 107, 112–Bus on Shoulder Improvements (various routes)

REGIONALLY SIGNIFICANT

- **16–Route 146 at Sayles Hill Road Grade Separation**
- **39–Route 6 E at I-95 (I-95 NB Viaduct)**
- 42–I-195 Interchange: Taunton and Warren Avenue
- 43–Allens Avenue & I-95 SB connection
- **68–Washington Bridge: I-195 WB alleviate bottleneck at Broadway Interchange**
- **69–Widen I-295 NB at Route 37**
- 90–Widen I-295 at a bypass
- **Pawtucket Central Falls Station**

Bold indicates project programmed within next 5 years.



Central—Kent County

The Central region is rural in the west and urban in the east with Warwick as the major activity center. Projects are primarily focused in Warwick and emphasize connectivity with other Rhode Island urban areas across modes.

NEXT 5 YEARS

- RIPTA Transit Priority Improvements (various routes)
- Warwick Arterial Traffic Signal Improvements: Route 1, Route 3, and Warwick Avenue

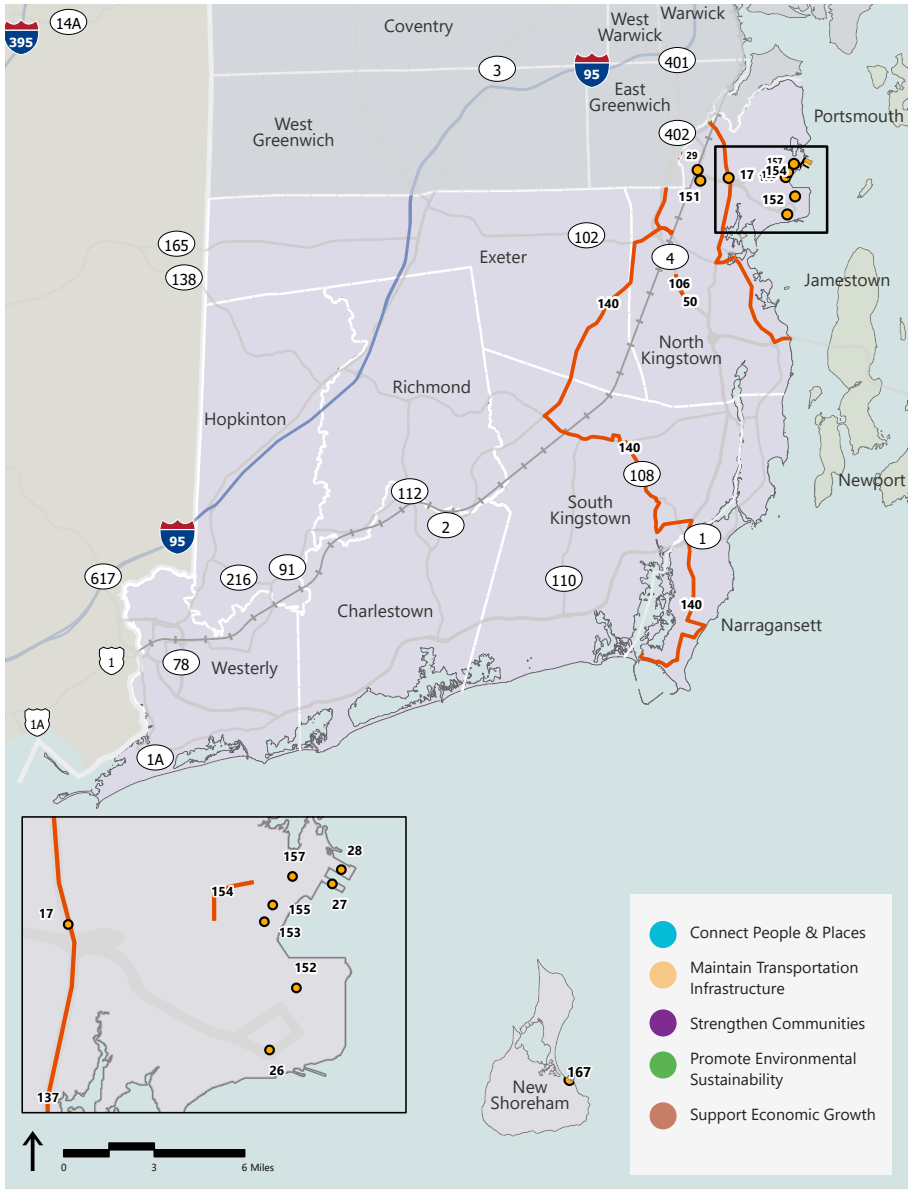
FUTURE PROJECTS

- 20–Improve Ramps at I-95 SB/Route 37
- 37–I-95 S at Route 37
- 38–I-95 S at I-295 S
- 105–Bus on Shoulder Improvements: I-95 from I-295 to Route 4
- 137–Regional Rapid Transit: West Bay

REGIONALLY SIGNIFICANT

- 40–Route 4/I-95 "Missing Move" *
- 44–TF Green Airport Intercity Rail - new service
- 135–BRT/LRT: Central Falls-CCRI Warwick

*In 2020 the RIDOT was awarded a grant to fund planning studies in support of the "Missing Move".



South—Washington County

The South region is characterized by lower density housing and employment, with more activities in village centers. Key projects are focused on improvements within Quonset Point supporting economic development and connectivity to employment centers, primarily Quonset and University of Rhode Island Kingston Campus.

NEXT 5 YEARS

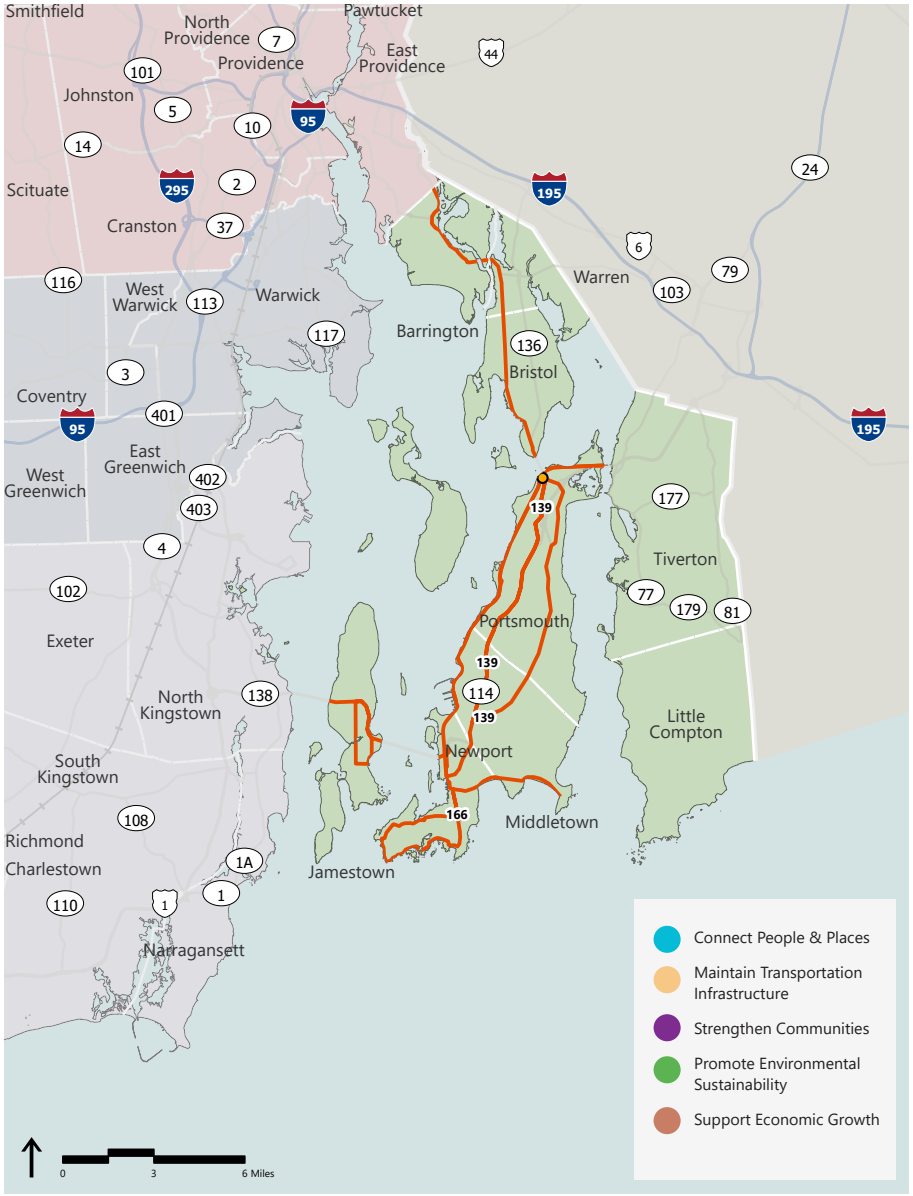
- Highway Safety Improvement Program: Intersection safety improvements at various locations (Route 138, Route 108)

FUTURE PROJECTS

- 106–Bus on Shoulder: Route 4 from Lafayette to West Allenton
- 140–Regional Rapid: URI - Galilee
- 151–Realignment of West Davisville Road and Extension of Compass Circle
- 167–Study opportunities to expand seasonal ferry services including connection from Quonset Point to Block Island
- Various Quonset Point Improvements

REGIONALLY SIGNIFICANT

- 17–Route 403 Deferred Ramps
- 50–Route 6 E at I-95 (I-95 NB Viaduct) Route 4 Traffic Light Removal



Southeast & Islands—Bristol and Newport County

The Southeast and Islands Region is made up of Aquidneck Island, Jamestown, and much of the East Bay. Newport is the major city in this region and the focus of key projects.

NEXT 5 YEARS

- Pell Bridge Interchange Project

FUTURE PROJECTS

- 88–Mount Hope Bay Bikeway/Two Bridges Trail Shared Use Path - Portsmouth
- 89 & 166–Aquidneck Island Shoreline Bikeway and Bike Corridor
- 139–Regional Rapid: Providence - Newport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