

IN MOTiON
THE PLAN TO 2050



**METROPOLITAN
TRANSPORTATION PLAN
FOR THE CAPITAL REGION**

For Policy Board Review on September 4, 2025

TITLE VI AND NONDISCRIMINATION POLICY STATEMENT

Disclaimer

Financial assistance for the preparation of this report was provided through grants from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) of the U.S. Department of Transportation and through the New York State Department of Transportation. The Capital Region Transportation Council is solely responsible for its content and the views and opinions expressed herein do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

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THANK
YOU!

The Plan to 2050

In Motion: The Plan to 2050 was prepared by Transpo Group and its subcontractors JohnstonXD and Urban Cycling Solutions on behalf of the Capital Region Transportation Council.

The Transportation Council would like to thank the In Motion Task Force.

We would also like to thank our many community stakeholders, residents, business owners, and members of the traveling public who gave their thoughtful comments and feedback throughout the planning process.



Kathy M. Sheehan

MAYOR, CITY OF ALBANY
POLICY BOARD CHAIR

“ ... the Capital Region will be
able to adapt and thrive ...

[pull quote from letter]

[Replace with 2025 signed resolution letter]

ADOPTED RESOLUTION #20-2

RESOLUTION ADOPTING THE NEW VISIONS 2050 PLAN

WHEREAS the Capital District Transportation Committee (CDTC) has been designated by the Governor of the State of New York as the Metropolitan Planning Organization (MPO) responsible for the comprehensive, continuing, and cooperative transportation planning process for the Capital District Transportation Management Area (TMA) which includes Albany, Rensselaer, Saratoga and Schoharie counties, as required by Title 23, U.S.C., Section 134 and Title 49 U.S.C. Section 5303; and

WHEREAS the CDTC is responsible for developing and adopting a regional transportation plan for the metropolitan area; and

WHEREAS the CDTC adopted the New Visions 2040 Plan in September 2015; and

WHEREAS CDTC has continued to implement the plan, refine its content and seek public involvement in assessing long-range regional transportation strategy; and

WHEREAS CDTC's continued work with CDTA, NYSDOT, other members and other partners in the region has manifested the tenets of the New Visions principles and policies; and

WHEREAS CDTC has continually assessed the implementation financial, budget needs, economic trends, fiscal forecasts and community attitudes toward New Visions concepts; and

WHEREAS CDTC certifies that its planning process meets all requirements of federal law; and

WHEREAS this update allows CDTC to reaffirm, adjust and extend the vision, goals, objectives, principles, strategies, actions and budget contained in the New Visions plan document through its update extending the plan to 2050; and

WHEREAS the New Visions Plan has been determined by the New York Department of Transportation (NYSDOT) to satisfy the requirements of the Federal America's Surface Transportation Act (FAST Act); and

WHEREAS the air quality conformity determination submitted for the Albany-Schenectady-Troy, NY Area was completed as per the federal transportation conformity regulations; and

WHEREAS the draft air quality conformity determination statement was released for a 60-day public review; and

THEREFORE BE IT RESOLVED that the CDTC approves the New Visions 2050 Plan, as CDTC's regional transportation plan update.

BE IT FURTHER RESOLVED, that the Capital District Transportation Committee endorse the Albany-Schenectady-Troy 1997 Federal Clean Air Act/Transportation Air Quality Conformity Determination in the context of the long-range Regional Transportation Plan (New Visions 2050) and 2019-2024 Transportation Improvement Program, as amended; and

BE IT FURTHER RESOLVED that the Secretary is directed to transmit this action to appropriate state and federal agencies and that the staff is directed to publish and disseminate copies of the final report to CDTC participants, appropriate agencies, and other interested parties.

Kathy M. Sheehan
Mayor, City of Albany
Chair, Capital District Transportation Committee

September 3, 2020

SEE APPENDIX M

A MESSAGE FROM THE CHAIR

The Capital District Transportation Committee released its first New Visions Plan over 20 years ago. This plan presents a regional consensus about the future of transportation in the Capital Region and was developed in consultation with residents, businesses, transportation providers and state and local government leaders.

New Visions 2050 is the next step in shaping transportation policy and investment in the coming years. We have prepared this document to provide an overview of the Plan for the region and the opportunity to participate in its continued development. Rapidly changing technology, an aging population, a climate in crisis, and a changing economy makes the future more uncertain than ever before.

[Replace with letter from Chair]

The last decade was the warmest on record and transportation continues to be the largest contributor of greenhouse gas emissions, a driver of climate change. At the same time, our country and region are facing deepening inequality and communities must make investments that correct past oversights while creating new opportunities that make the region more sustainable. We are confident the Capital Region will be able to adapt and thrive despite the challenges we face.

This Plan is a framework that describes how to meet the region's transportation needs in a cost-effective manner while promoting safety, resiliency, more equitable communities, and improving the overall quality of life. New Visions 2050 advocates for continued urban investment, concentrated development, and smart land use. From renewing road and bridge infrastructure to developing a connected system of safe walking and bicycling facilities, it supports a robust, connected transportation network that provides affordable and safe transportation choices to move people and goods.

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Having trouble with understanding terms or acronyms?

Visit **Appendix A** for guidance.



CHAPTER 1 INTRODUCTION

ABOUT THE CAPITAL REGION TRANSPORTATION COUNCIL

The Capital Region Transportation Council (Transportation Council) is the designated Metropolitan Planning Organization (MPO) for the Albany-Schenectady and Saratoga Springs urbanized areas.

The Transportation Council is responsible for coordinating a continuous, comprehensive, and cooperative transportation planning process in Albany, Rensselaer, Saratoga¹, and Schenectady counties.



Guided by a Policy Board of elected and appointed officials, the Transportation Council works with the region's municipalities, state and federal government agencies, regional authorities, and other regional organizations to make decisions about transportation system investments.

¹ Except the Town of Moreau and the Village of South Glens Falls



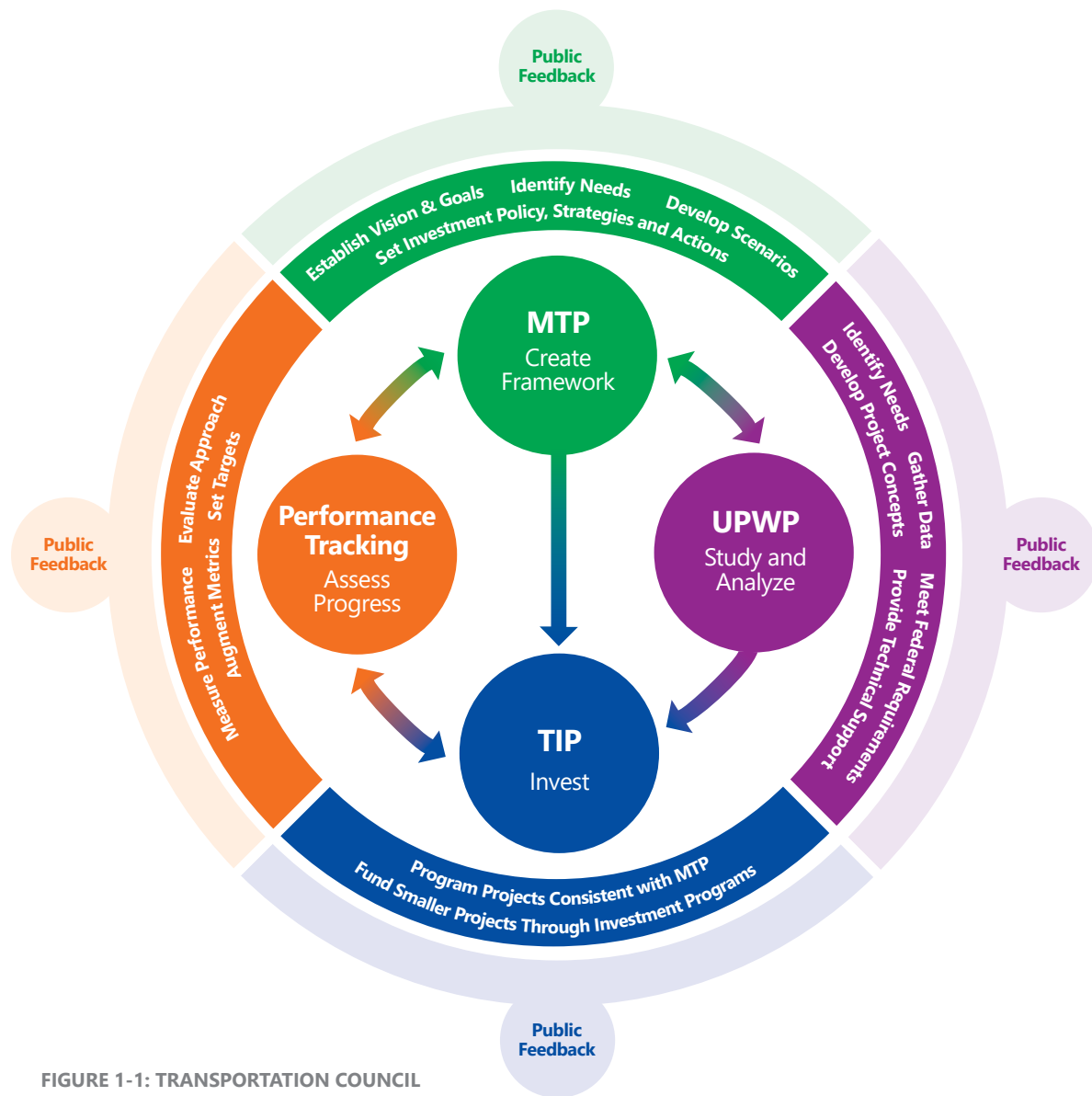


FIGURE 1-1: TRANSPORTATION COUNCIL CORE PRODUCTS

Responsibilities of all Metropolitan Planning Organizations

As the MPO for the Capital Region, the Transportation Council is required to produce three major products:

1. A Metropolitan Transportation Plan (MTP) with a 20+ year horizon, also known as a regional transportation plan;
2. A Transportation Improvement Program (TIP), a list of federally funded transportation projects over a 5 year period; and
3. A Unified Planning Work Program (UPWP), an annual list of federally funded planning activities.

Input from members of the public is essential to the successful development of all of these planning documents that are at the core of the region's transportation planning efforts. Public participation in the preparation of all of these documents is guided by the Transportation Council's Public Participation Plan, which provides guidance to ensure everyone that lives, works, and plays in the Capital Region benefits from transportation investments².

² The Transportation Council's Public Participation Plan is available at: <https://www.capitalmpo.org/ppp2024>

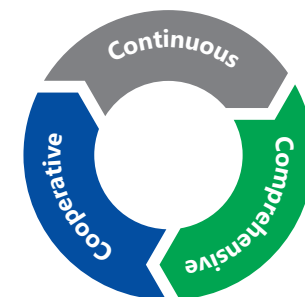
PRESENTING IN MOTION: THE PLAN TO 2050



In Motion: The Plan to 2050 is the Capital Region's Metropolitan Transportation Plan (MTP). It is the Transportation Council's most strategic document, because it sets the framework for everything that the Transportation Council does.

The Plan identifies a comprehensive set of strategies and actions aimed to ensure that transportation investments align with the needs and aspirations of all users of the transportation system.

The Transportation Council is responsible for ensuring that transportation planning in the Capital Region follows the 3-C Process.



Federal Planning Factors

Federal law requires that In Motion consider a set of federal planning factors related to the region's transportation system. These are a set of key considerations and criteria that guide the planning and development of federally funded transportation projects/policies.

These factors are important for ensuring that transportation planning in the Capital Region is aligned with national objectives.



Federal Planning Factors that Guide the Development of the MTP

- 1 Support the economic vitality of the metropolitan area, especially 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 local planned growth and economic development patterns.
- 6 Enhance the integration and connectivity of the transportation system for all modes.
- 7 Promote efficient system management and operation.
- 8 Emphasize 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.

Plan Development Process

In Motion was developed through a two year planning process to identify and meet the Capital Region's transportation planning needs.

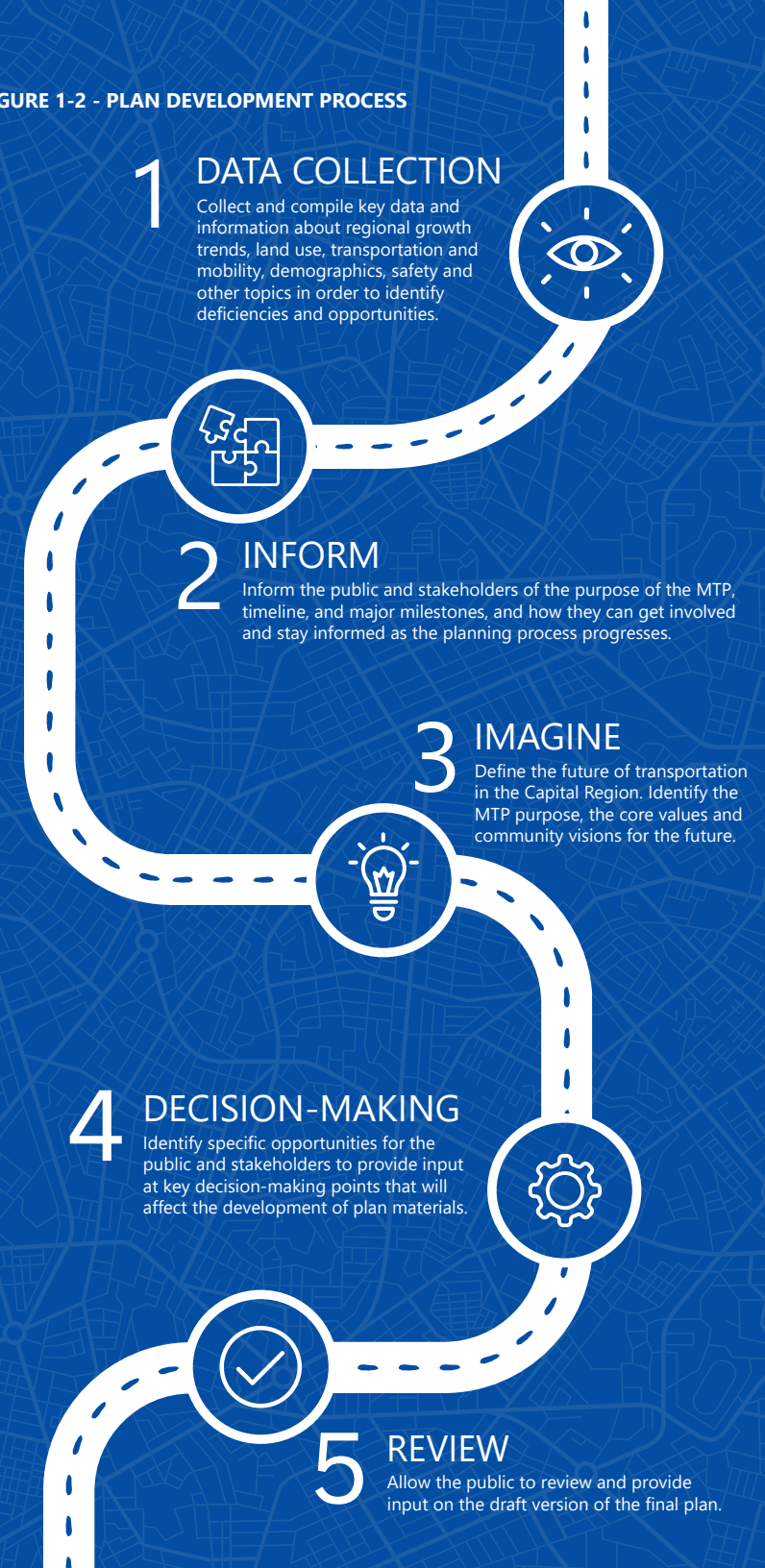
The process to develop In Motion addressed the various federal requirements, utilized an *In Motion Plan* Task Force to guide its development, and ensured ongoing opportunities for input by the public, the Transportation Council's Advisory Committees, and the Policy Board.

This process included five major phases to organize everyone's efforts:

1. **Data Collection**
2. **Inform**
3. **Imagine**
4. **Decision-Making**
5. **Review & Adopt**



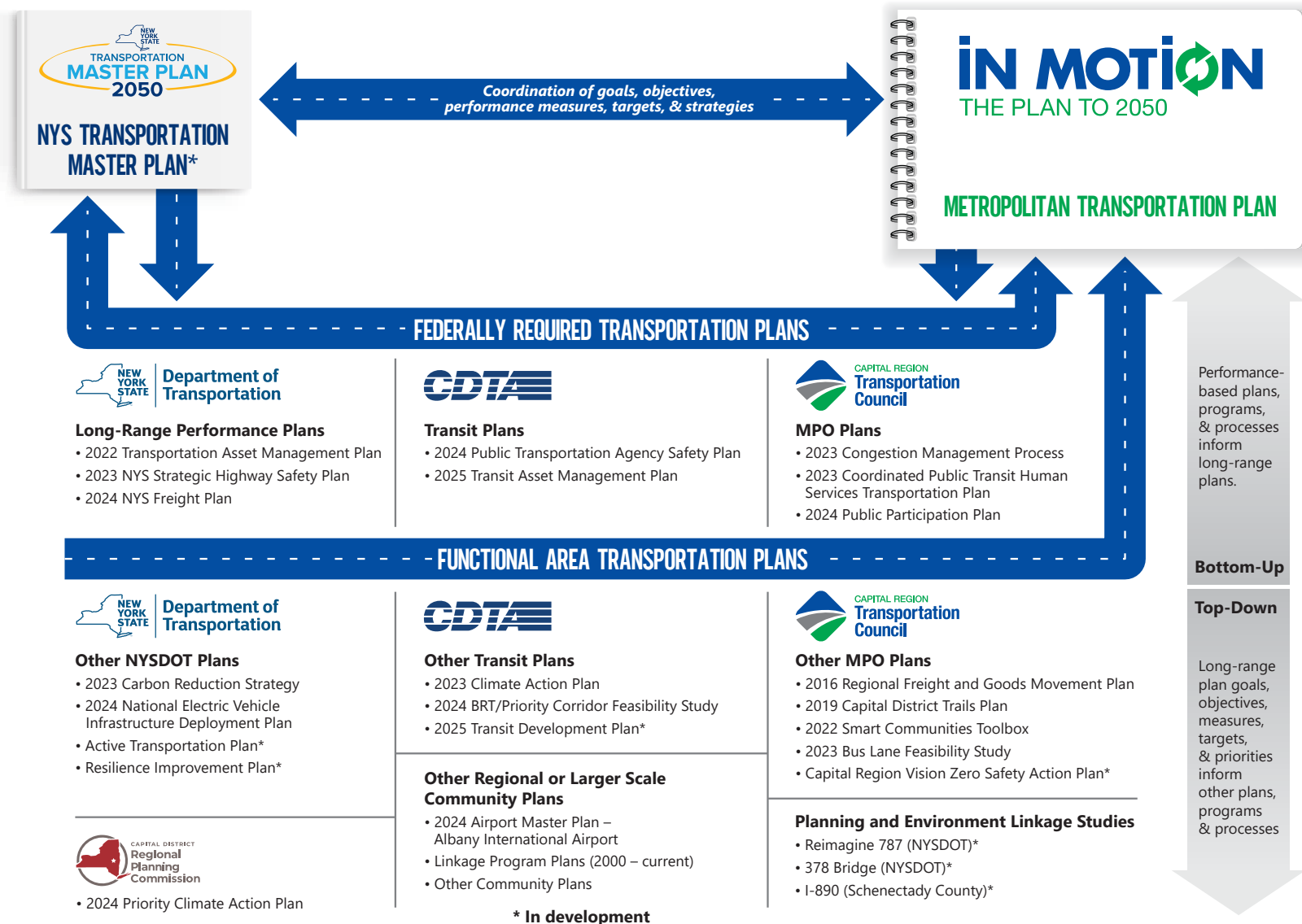
FIGURE 1-2 - PLAN DEVELOPMENT PROCESS



Relationship to Other Plans

Figure 1-3 illustrates a few key plans and their inter-relationships. There are numerous state, regional, and local transportation related plans, approved or in development, that the *In Motion Planning* process has considered, integrated, and is consistent with.

FIGURE 1-3: INTEGRATION OF PLANS



ABOUT THE CAPITAL REGION

The Transportation Council's planning area includes 77 municipalities across the region's four counties.

The Capital Region has steadily developed and evolved as a thriving metropolitan area with strengths including recreational opportunities, a successful technology sector, and key industries such as health care, education, culture, and the activities associated with serving as New York's state capital.

We are strategically located at the confluence of the Hudson and Mohawk Rivers on the traditional lands of the people of the Delaware, Mohawk Haudenosaunee, and Stockbridge-Munsee Community Band of Mohicans. The Transportation Council recognizes that we live, work, and travel on the homelands of sovereign native nations with histories and cultures that continue today and are reflected in the names given to many towns, creeks and mountains that are part of our region's vocabulary.



FIGURE 1-4: CAPITAL REGION TRANSPORTATION COUNCIL PLANNING AREA

Historical Development of the Capital Region's Transportation System

The development of transportation networks has been key to the success of the Capital Region, beginning centuries ago with the first turnpikes and the creation of the Erie and Champlain Canals.

Our region is also where the first passenger railroad began its operations and is home to the nation's first municipal airport.

Today, Interstate highways, Amtrak, the Empire State Trail, and the Albany International Airport make the region a major crossroads of the Northeastern United States. It is centered within a short drive, bus, or train ride to New York City, Boston, and Montreal.



Trade networks and villages established by indigenous populations along the Mohawk and Hudson Rivers.

PRE-1600



Erie Canal opens, putting Albany and New York State on the map as the greatest public works project in North America.

1825



Curtiss Hudson Flyer | Courtesy of NASM



Albany Airport | Times Union Archive

Albany becomes the point of origin for the first long distance airplane flight.

1910

Albany's municipal airport was the first in the country and the international airport is the oldest in the United States.

1908



The Capital Region sits at multiple crossroads – the Hudson and Mohawk Rivers, Interstates 87 and 90, and the recently completed Empire State Trail.

TODAY

1799

First turnpike is built between Albany and the Finger Lakes (now U.S. Route 20).



1831

First successful steam passenger railroad in the U.S. begins running regular service between Albany and Schenectady, later part of the New York Central Railroad system.



1967

Construction of the Adirondack Northway, now commonly referred to as "The Northway" is completed.



Northway Interstate Construction | Bernie Kolenberg/ Times Union Archive

Our Multimodal Transportation System

The transportation system in the Capital Region is composed of a wide range of infrastructure assets that facilitate the movement of people and goods. These assets are part of a network that supports the needs of all users, whether they choose to walk, roll, bike, use transit, drive, or fly.



3 Amtrak Stations
(Albany-Rensselaer is the 8th
Busiest Amtrak Station in the Nation)



67



Miles of Bike Facilities

(Including Traditional Bike Lanes &
Separated Bike Lanes or Cycle Tracks)

1,266



Miles of Sidewalks

1,148



In the City of Albany

In the City of Schenectady

In the City of Troy

**Traffic
Signals**



Over

160

Miles of Paved Trails

2



**Maritime
Shipping Ports**

41

**Miles of Bus Rapid
Transit (BRT)**



Over **1,000** **Bridges**

1



International Airport



14,000
**Lane-Miles
of Roadway**

(Including 800 Miles of
Interstate Highways)



CHAPTER 2

PURPOSE OF THE PLAN

INTRODUCTION

The Transportation Council works diligently to plan and implement an integrated, multimodal transportation system for the Capital Region. To comply with federal law, the Transportation Council is required to develop a Metropolitan Transportation Plan (MTP), a regional plan that covers no less than a 20-year planning horizon. *In Motion: The Plan to 2050* is the Capital Region's MTP and will guide investment in the transportation system through a shared vision for the future. The plan's vision, goals, and objectives were prepared with the assistance of federal, state, regional, and local government partners and with input from those that live, work, and play in the Capital Region.



VISION STATEMENT

From spearheading studies of emerging issues to planning the investments needed to keep the region's transportation system in a state of good repair, everything that the Transportation Council does will be guided by the following Vision Statement:



By 2050, we will strive to maintain a clean and efficient transportation system that provides safe, resilient, and reliable options for the movement of all people and goods. The Capital Region will thrive with a seamless, multimodal network that is community focused, connecting all people to economic opportunity while supporting sustainable growth and livable communities. Transportation investments will improve system performance, support and promote new development, adapt to technological advancements, and protect the environment for future generations.

GOALS AND OBJECTIVES

The Transportation Council has established a set of five goals, each focused on an important aspect of the transportation system's performance (Safety, Mobility, Access, Livability, and Resilience). These goals are broad and strategic, and each is linked with a set of supporting objectives that are more tactical in nature.

When making decisions about investments in the transportation system, the impacts of candidate projects are reviewed against these organizational goals and objectives.

Livability

Make strategic investments in the transportation system to allow people of all ages and backgrounds to thrive by supporting economic development, encouraging population growth, and planning for housing in areas with transportation options.

Mobility

Ensure the transportation system is maintained, operated, and coordinated to support reliable travel throughout the region.

Resilience

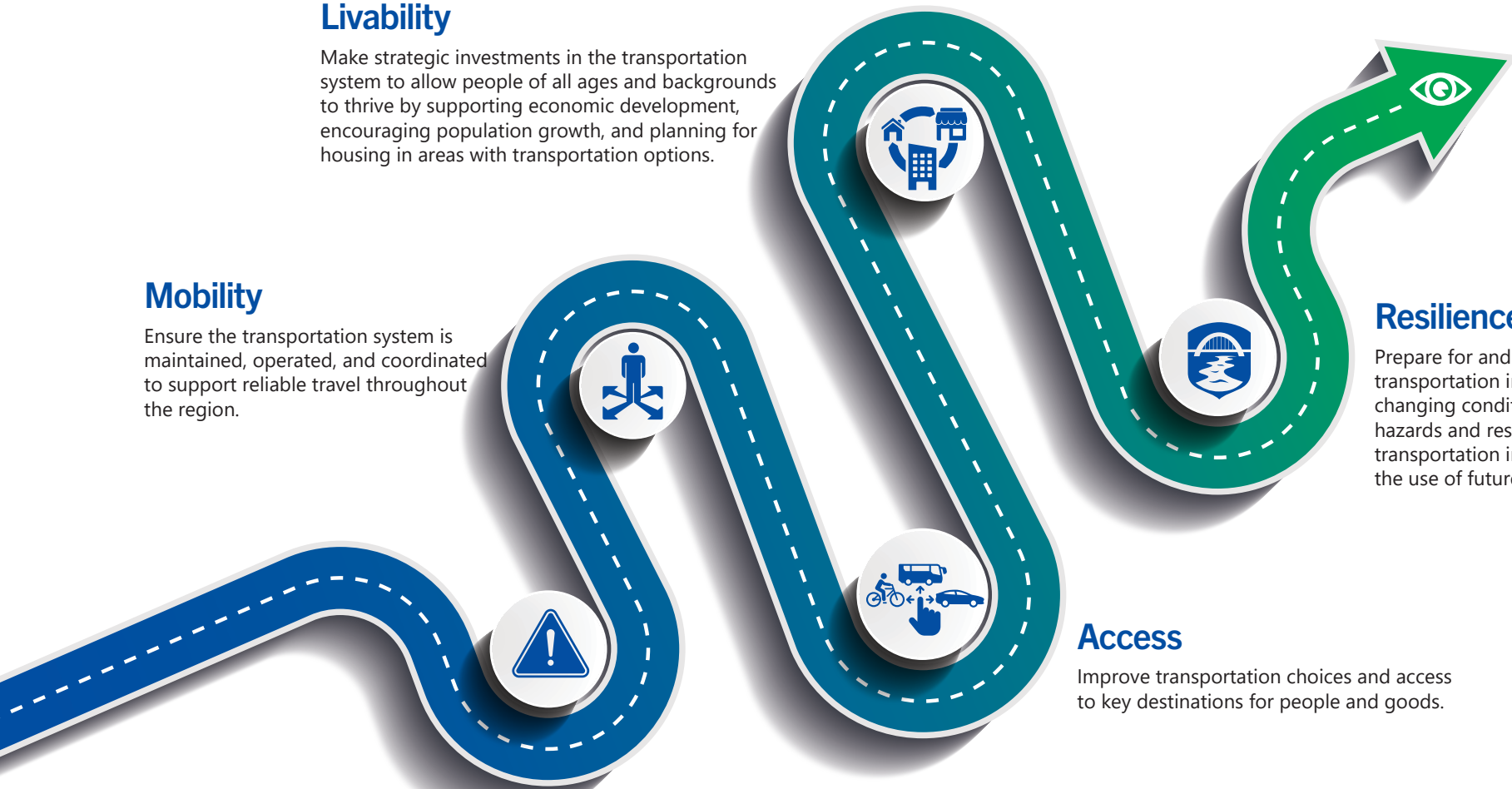
Prepare for and protect transportation infrastructure from changing conditions and natural hazards and responsibly adapt transportation infrastructure for the use of future generations.

Access

Improve transportation choices and access to key destinations for people and goods.

Safety

Eliminate fatalities and reduce serious injuries by 50% on Capital Region roadways; increase the security of the transportation system.





Safety

OBJECTIVES

- Prioritize safety of all road users, particularly pedestrians, bicyclists, and people with disabilities.
- Emphasize funding for proactive projects that lead to safe roads designed to accommodate human mistakes and physical vulnerabilities/constraints.
- Promote education on safety, security, and cybersecurity.
- Support the protection of transportation customers, shipments, employees, and travelers from safety and security threats.
- Minimize the impact of infrastructure failures, or other disruptions to the transportation system.



Mobility

OBJECTIVES

- Maximize investment in the operation of the transportation system.
- Maintain surface transportation infrastructure and rebuild aging bridges and culverts to reduce future maintenance costs and enhance future mobility.
- Implement advanced technologies, real time data gathering, and other operational tools to improve the efficiency of the transportation system.
- Plan for evolving technologies for all travel options including the potential for connected and automated vehicles.
- Prioritize strategic integration of technology over increasing capacity or building new infrastructure.
- Improve regional travel time reliability and reduce the total cost of delay for all travel options.
- Improve supply chain resiliency.



Access

OBJECTIVES

- Emphasize the use of universal design practices and specifications.
- Increase connections for people and freight to efficiently and cost-effectively access jobs, housing, essential services, education, logistics sites, open space, and other key destinations.
- Close gaps in the multimodal transportation system, particularly for pedestrians and bicyclists.
- Improve transit access and strategically invest in bus lanes, queue jumpers, transit signal priority (TSP), and other transit-priority projects.
- Prioritize low-cost improvements to the transportation system.
- Address barriers affecting regional deployment of micromobility, and alternative fuel vehicle.
- Prioritize affordable transportation options for all users of the system.
- Support a planning process that reduces transportation project delivery times.



Livability

OBJECTIVES

-  Prioritize transportation investments in developed or growing areas that support mixed use development, compact development, or transit-oriented development.
-  Prioritize investments that serve employment centers, educational facilities, and improve multimodal access to job centers.
-  Maximize investments that support efficient freight movement and the basic needs of drivers.
-  Incorporate current and planned housing into the regional transportation planning process, including affordable housing.
-  Support the goals of the latest Capital Region Economic Development Council Strategic Plan.
-  Plan for environmentally friendly transportation investments that contribute to clean air and clean water as we transition to a clean energy-powered economy.



Resilience

OBJECTIVES

-  Reduce the impact of flooding, extreme heat, snow and ice, and technology failures on the transportation system.
-  Improve stormwater management in transportation projects.
-  Identify and prioritize infrastructure investments that improve resilience.
-  Proactively identify natural resources and sensitive lands/habitats and support a planning process that mitigates the impacts of transportation on them.
-  Proactively plan for potential disasters and emergency response, and coordinate with local hazard mitigation plans.
-  Encourage sustainable transportation energy practices that advance a commitment to preserving natural resources for future generations.
-  Advance integrated renewable energy solutions to improve energy reliability.





CHAPTER 3

CURRENT TRENDS



INTRODUCTION

The Capital Region has steadily developed into a thriving metropolitan area at the intersection of transportation, recreation, culture, and government. As the region continues to grow and diversify, the need for a comprehensive and forward-looking plan for the region's transportation system has become more crucial. Planning for the future transportation system requires an understanding of where our region is today and the recent trends that may help shape its future.



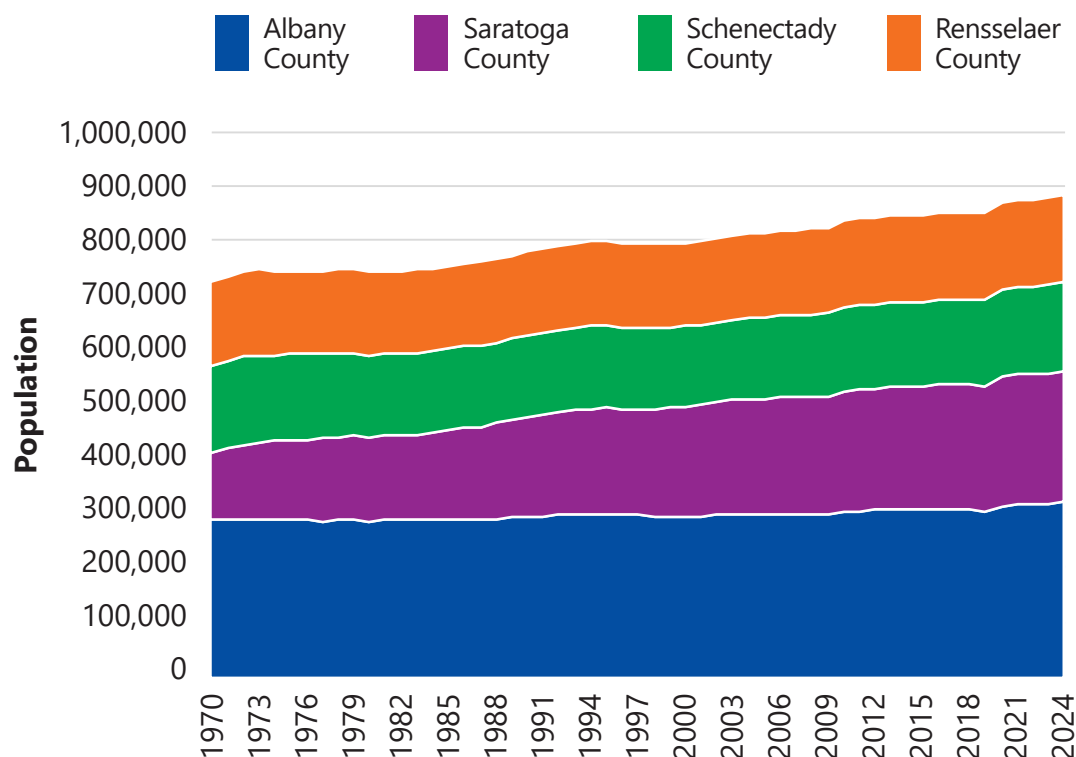
WHAT TRENDS WILL AFFECT TRANSPORTATION IN THE CAPITAL REGION?

After a review of relevant data, the Transportation Council identified ten trends that may have an impact on the future of the Capital Region's transportation system. These characteristics are highlighted in this Chapter and the Regional Trends Report in **Appendix D**. The related Capital Region Trends & Forecasts StoryMap¹ provides additional details on the region's population, economy, and transportation network.

Slow Population Growth

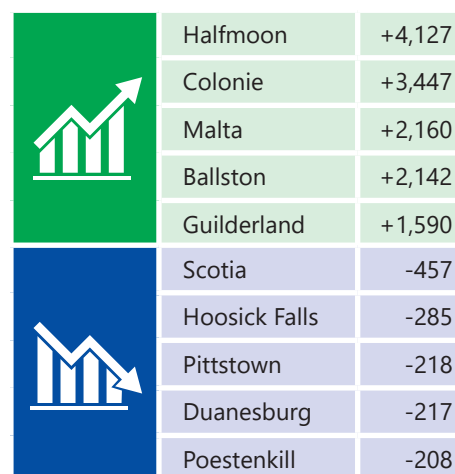
Unlike many regions in Upstate New York, the Capital Region's population has grown steadily over many decades and continues to increase. Since the 1970s, all four of the region's counties have experienced population growth, with Saratoga County growing most quickly (see **Figure 3-1**). This growth contrasts with the rest of New York State which, according to the U.S. Census Bureau, experienced population loss between 2010 and 2020 and is projected to experience additional population loss (-4%) between the 2020s and 2050. Meanwhile, the nation's population is projected to increase (+7%) through 2050.

FIGURE 3-1: HISTORIC POPULATION TREND 1970-2024, BY COUNTY.
SOURCE: CENSUS BUREAU



Since the construction of the Interstate system, the Capital Region has experienced a shift of population to the suburbs from the region's cities. Between 2010 and 2020, suburban communities experienced the largest population increases while rural communities experienced population decline (see **Figure 3-2**). The region's largest cities (Albany, Schenectady, Saratoga Springs, and Troy) saw slight population increases between 2010 and 2020.

FIGURE 3-2: COMMUNITIES WITH A SIGNIFICANT NET POPULATION CHANGE BETWEEN 2010 AND 2020. SOURCE: U.S. CENSUS BUREAU, 2020

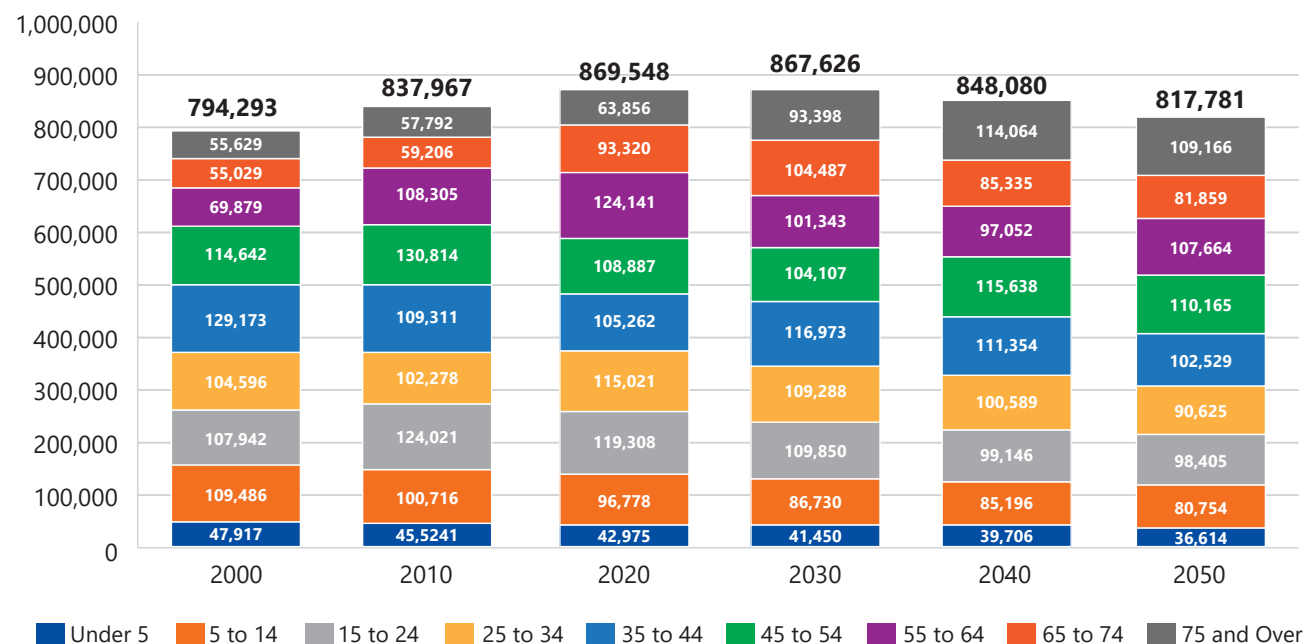


An Aging Population With Increasing Needs

Between 2010 and 2020, the region's median age went up from 39.6 years to 40.5, according to the U.S. Census Bureau. Population projections prepared by the Capital District Regional Planning Commission (CDRPC) predict that the region will lose population through 2050, and the share of older adults within the population is expected to grow (see **Figure 3-3**). Many of these older adult households are disconnected and further away from town and urban centers, creating barriers to access essential goods and services.

As the population grows and ages, the number of people with a disability is also likely to increase. It is important for the region to monitor where the age 60+ population is located to help older people and their families plan strategies to reduce transportation barriers and maintain daily activity.

FIGURE 3-3: CAPITAL REGION AGE COHORT PROJECTION

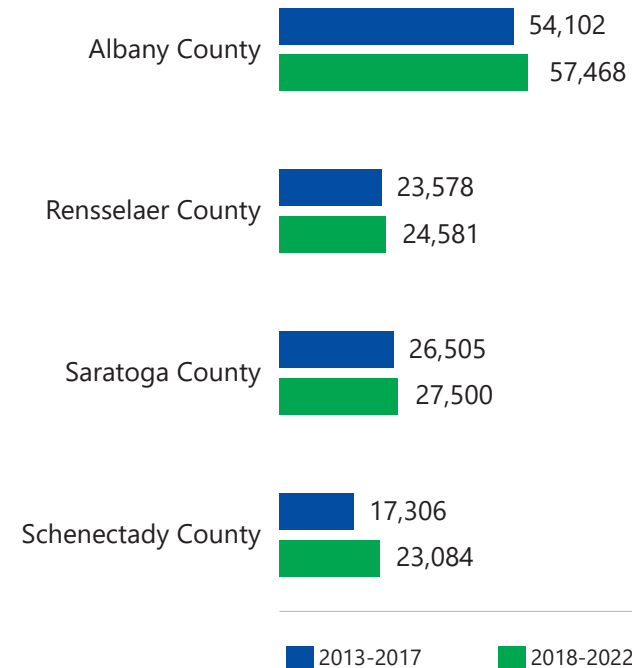


Growing Housing Affordability Concerns

Housing availability and affordability are closely intertwined. As the region recovered from 2008's Great Recession and the after-effects of the housing bubble, construction of new homes slowed. When new home construction returned, there was a shift from single-family to multi-family home construction. Between 2015 and 2019, permits for multi-family housing exceeded the number of permits for single-family housing unit-for-unit. Between 2020 and 2021, all building permit issuances increased by 39.3% and since 2021, single-family issuances have been at their highest value since 2015, with a 9.3% increase from single-family issuances in 2020. Of all the building permits issued between 2008 and 2021, Saratoga County issued the most with nearly half (49%) of all permits.

Housing availability and options are key components of a quality region made up of diverse communities. Housing availability also affects affordability because when supply cannot meet demand, it can lead to increased competition for available units, driving prices up and making housing less affordable. The median home price for all four counties has increased significantly since 2019 and prices for first-time homebuyers have doubled since the early 2000s. Despite data that indicates rents are increasing, sometimes reaching a level higher than a typical mortgage payment, local trends indicate a shift from homeownership to an increasing number of renters in every county (see **Figure 3-4**).

FIGURE 3-4: CHANGE IN THE NUMBER OF RENTER OCCUPIED HOUSING (2013-2017 VS. 2018-2022). SOURCE: U.S. CENSUS BUREAU, 5-YEAR ESTIMATES



As rents have increased, incomes in the Capital Region have risen at a slower pace. Recent analysis by the CDRPC found that a 2-bedroom apartment is unaffordable for single renters earning a typical wage in all four of the region's counties, and even a 1-bedroom apartment is unaffordable by this measure in Rensselaer and Schenectady counties (see **Figure 3-5**).

Economic development initiatives depend on a healthy housing market, as workers may be less willing to relocate to regions with relatively high housing costs. However, increasing housing stock brings various transportation-related challenges, including how workers will access employment centers and where residents will park their cars. Transportation investments, in turn, affect the attractiveness of locations to residents and business and shape future land use development decisions.

Disconnected Development

Land use and transportation are inextricably linked. The mix, location, and density of land uses drives travel demand, interacting with one another to determine the cost of transportation, viability of different transportation modes and investments, and the ability of travelers to combine modes to complete trips. After centuries of development impacted by economic, policy, social and cultural factors, in addition to other forces, the Capital Region today is characterized by disconnected land use development (see **Figure 3-6**).

During the era of major highway construction in the late 20th Century, when the I-87 Northway, I-890, and I-90 were built, municipal land use policies in the suburbs along these corridors mandated low-density residential neighborhoods separated from commercial centers, leading to nearly all travel being in private motorized vehicles. Indeed, suburbanization and the highway construction boom led to a doubling of the number of vehicles registered in the Capital Region in just the two decades between 1970 and 1990.

FIGURE 3-5: 2023 RENTER HOURLY WAGE VS. NECESSARY HOURLY WAGE TO AFFORD 1 BEDROOM AND 2 BEDROOM APARTMENTS

SOURCE: CAPITAL DISTRICT HOUSING ANALYSIS, PREPARED BY CAPITAL DISTRICT REGIONAL PLANNING COMMISSION

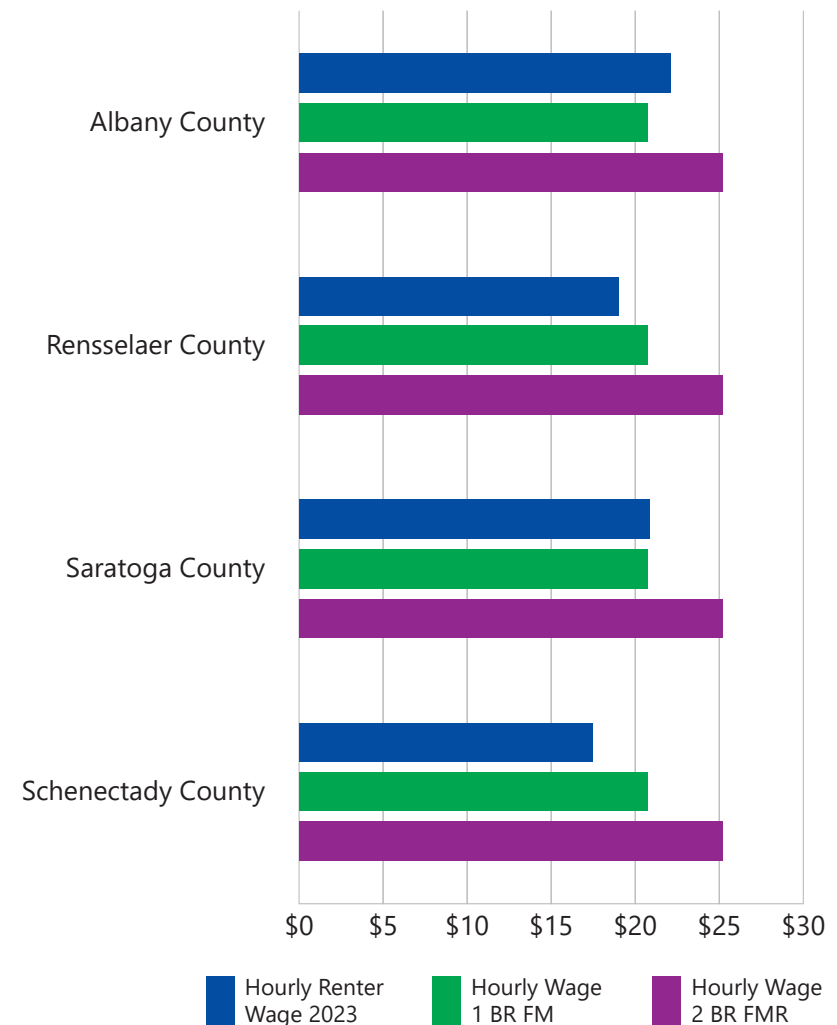
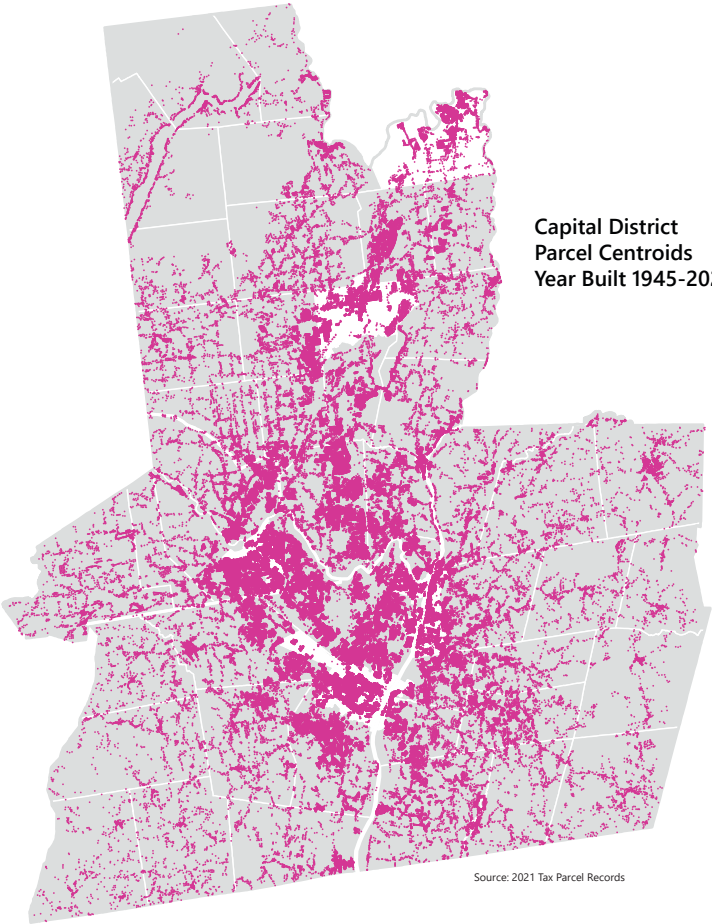
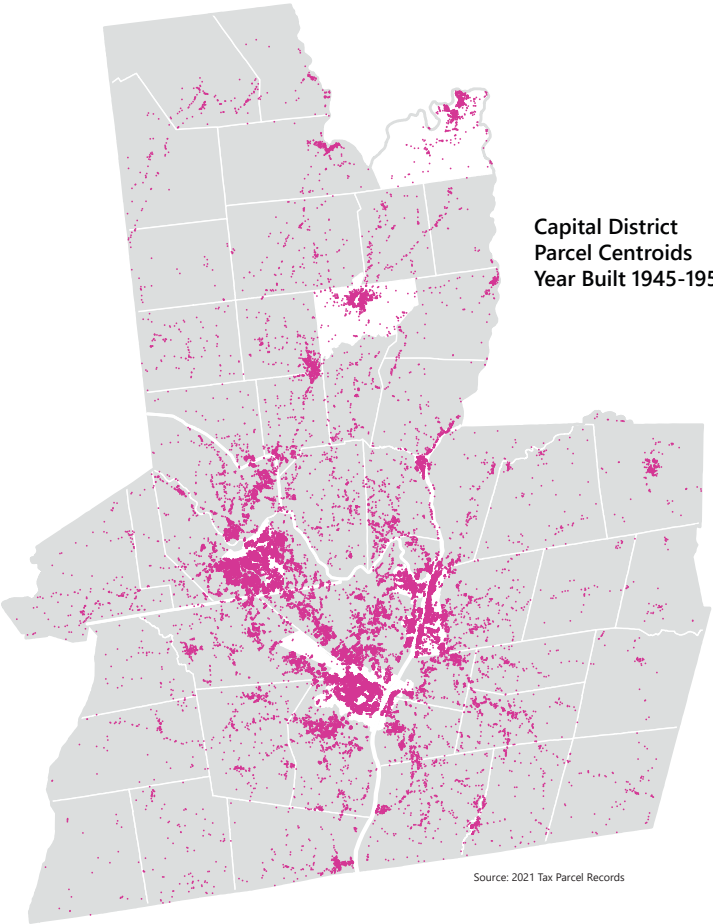




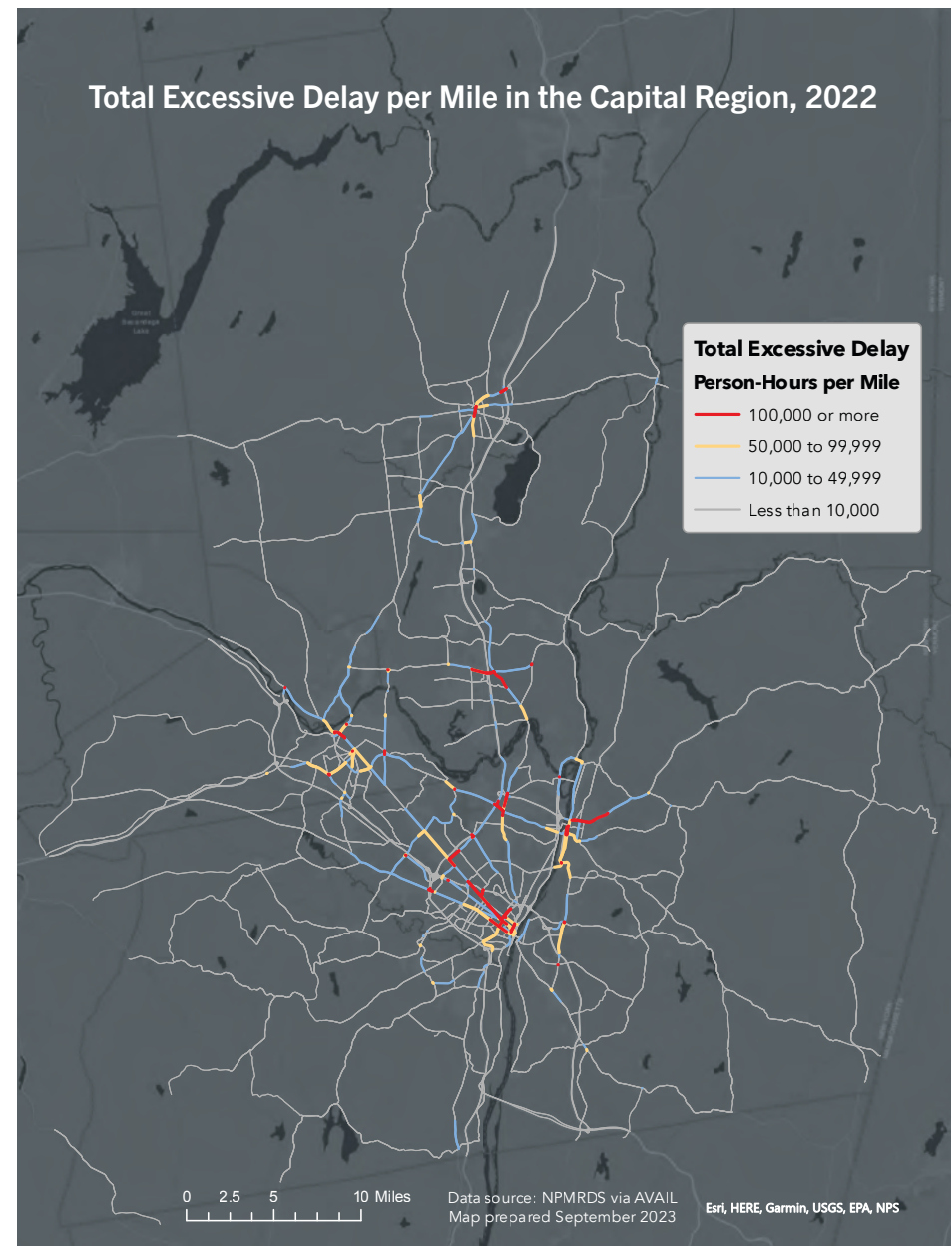
FIGURE 3-6: TAX PARCEL DATA FROM 1945 TO 2021 BASED ON “YEAR BUILT” ATTRIBUTE. SOURCE: CDRPC



The increased use of motorized vehicles contributes to congestion. The Transportation Council measures congestion in terms of excessive delay for motor vehicles. Excessive delay is defined as extra time spent by vehicles when travel speed is below 60% of free-flow speed. This threshold most often occurs at signalized arterials like NY 146 in Clifton Park, NY 7 in Troy/Brunswick, and NY 5 in Colonie/Albany due to traffic signals regularly pausing traffic flow. Excessive delay also occurs on interstate highways, typically when crashes, work zones, or weather events impede traffic flow. **Figure 3-7** shows total excessive delay per mile on each roadway segment in the region. While congestion could be considered a sign of vitality in a region, the costs of congestion include lost time, extra fuel, greater vehicle maintenance and depreciation, delay of emergency services, and delays in shipping.



FIGURE 3-7: TOTAL EXCESSIVE DELAY PER MILE IN THE CAPITAL REGION, 2022.
SOURCE: CDRPC



Economic Disparity

Disparities in access to economic opportunity remain a challenge in the Capital Region, which is consistent with many other regions statewide and nationally. Past policy, planning efforts, and investment decisions have often resulted in unfair land-use patterns and disproportionate impacts, in some cases with the disproportionate harm imposed on economically disadvantaged communities.

Key historic milestones include the practice of “redlining,” which steered residential investment away from disadvantaged neighborhoods, and the Fair Housing Act of 1968, which prohibited discrimination in housing. The location and type of highways have also had disparate impacts.

Approximately 12% of the Capital Region’s workers are in poverty, despite being employed. In addition, the number of retail and hospitality jobs (which are often lower wage jobs) have increased in the region, but the locations of these jobs are shifting outside the cities of Albany, Schenectady, and Troy (see **Figure 3-8**). This has created a mismatch between where low wage earners live and how they access jobs, as the cost of car ownership is high, transit availability in suburbs is limited, and the location of affordable housing for low wage earners often remains in the three core cities.

FIGURE 3-8: RETAIL JOB SHIFT IN THE CAPITAL REGION 2002 TO 2015
SOURCE: JOB ACCESS IN NEW YORK’S CAPITAL REGION², 2022, TRANSPORTATION COUNCIL

	2002	2015	Percent Change	Absolute Change
City of Albany	6,263	5,681	-9%	-582
City Schenectady	1,900	1,668	-12%	-232
City Troy	1,626	1,559	-4%	-67
Town of Colonie	10,330	10,751	4%	421
Albany County	20,537	21,818	6%	1,281
Saratoga County	9,238	10,359	12%	1,121
Schenectady County	5,988	7,121	19%	1,133
Rensselaer County	5,219	5,676	9%	457
Regional Total	40,982	44,974	10%	3,992

A Significant Shift To Working-From-Home

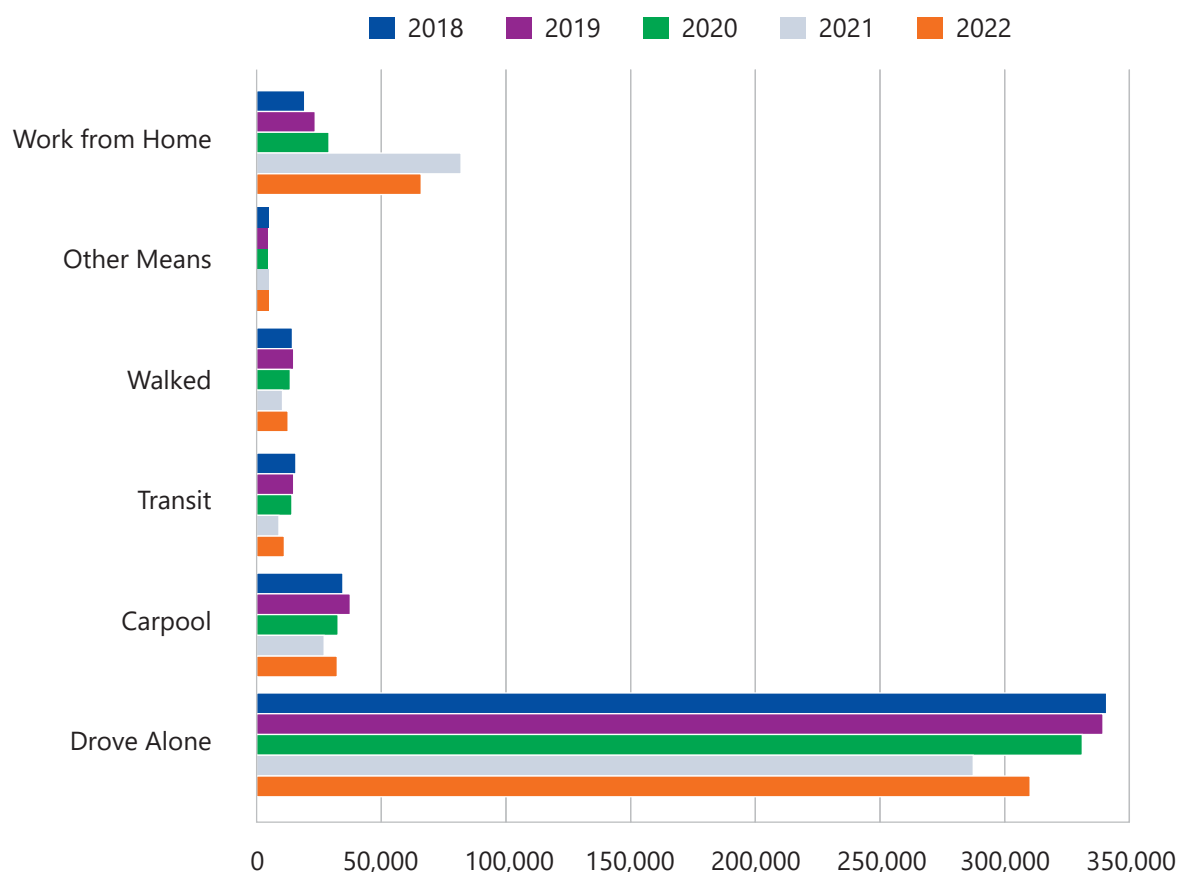
For some types of workers, the COVID-19 pandemic accelerated the move from office-based work to work-from-home through telecommuting. While the amount of telecommuting has decreased somewhat following the lifting of pandemic-related movement restrictions, it remains at a much higher level than before the pandemic (see **Figure 3-9**). According to the U.S. Census Bureau, telecommuting increased from 4.4% of all work commute options in 2018 to 15.1% in 2022.

It is important to note that the ability to telecommute varies greatly across industries, with jobs in fields such as food services, retail, construction, and manufacturing being much less amenable to telecommuting. In contrast, increasingly flexible work schedules mean that many office workers telecommute on some days and work at their office/workplace on other days. Other workers are fully “remote” and work from home without ever commuting to a fixed office location.

Widespread use of telecommuting and virtual meeting technologies has impacted the Capital Region. It has dispersed daytime populations away from traditional job centers, which directly impacts the amount of driving done during peak commuting

periods (usually the most congested times of day). It has also reduced the need to travel for other aspects of life including personal services, socializing and health care. The Transportation Council will continue to stay abreast of changing travel patterns in the region due to people engaging in virtual activities.

FIGURE 3-9: CAPITAL REGION COMMUTE TO WORK MODE SHARE (2018-2022)
SOURCE: U.S. CENSUS BUREAU, AMERICAN COMMUNITY SURVEY 1-YEAR ESTIMATES
DATA: ACS DP1Y2018, ACS DP1Y2019, ACS DP1Y2020, ACS DP1Y2021, ACS DP1Y2022

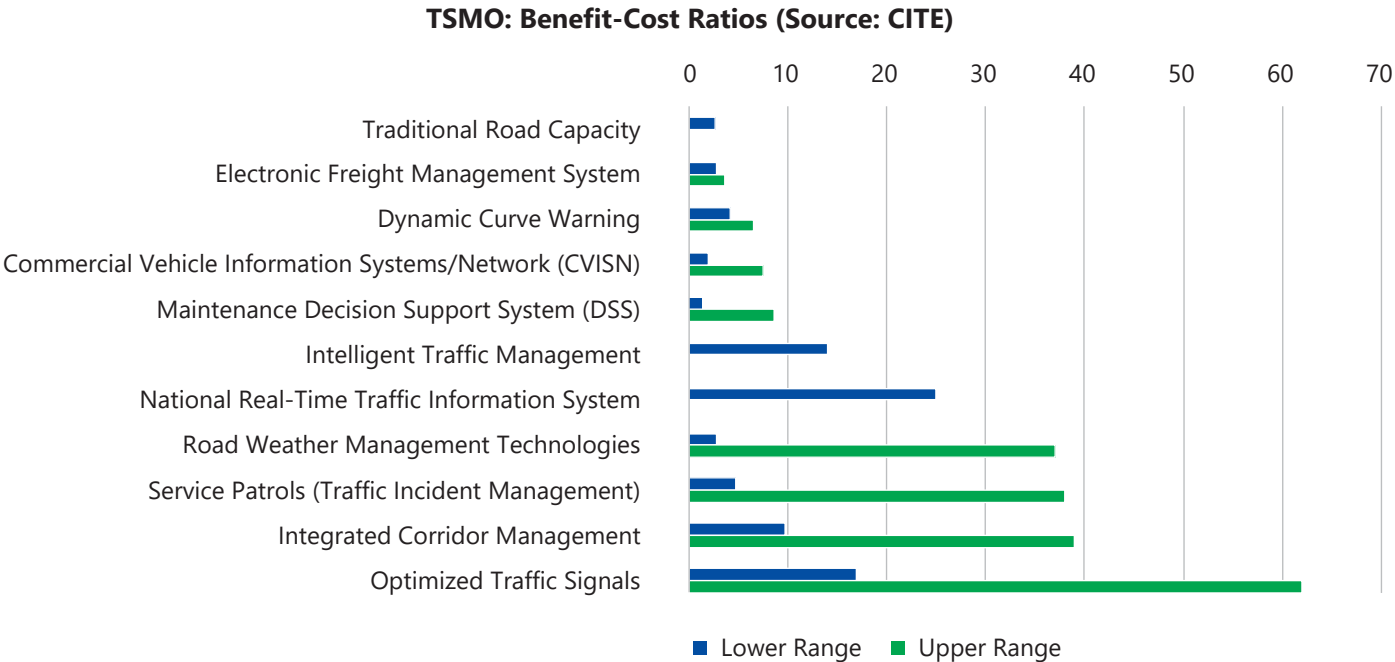


Increasing Number of Transportation Options and Advanced Technologies

The 21st century has seen the transportation landscape undergo a major shift. While private automobiles and trucks remain dominant in terms of usage, technology is rapidly evolving, and an entire ecosystem of transportation-related services has emerged. The future of the Capital Region’s transportation system does not depend solely on delivering and maintaining public highways, transit, and trails. During the lifetime of the *In Motion Plan*, it will include ensuring further deployment of technology to address transportation needs, with policies to ensure comprehensive regional coverage.

New technologies include alternative fuel vehicles (and the associated charging/fueling infrastructure), communications technologies to improve transportation safety and mobility (i.e., computerized traffic signal control, transit signal priority, traveler information systems, autonomous vehicles, etc.), and technologies that optimize the performance of the transportation system (i.e., traffic incident management, special event management, etc.). New and emerging technologies are often far more cost-effective solutions to transportation problems than building new road capacity (see **Figure 3-10**). However, they require new expertise to maintain and operate and must be flexible enough to adapt to future technological changes.

FIGURE 3-10: TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS (TSMO) STRATEGIES BENEFIT-COST RATIOS
SOURCE: CAPITAL REGION CONGESTION MANAGEMENT PROCESS, 2023 UPDATE, PREPARED BY THE TRANSPORTATION COUNCIL



Microtransit and Micromobility

Transportation modes other than private vehicles have been implemented in the region. CDPHP's Cycle! bike sharing program launched in the Capital Region in 2017, and at the time of writing has some 100 stations, 400+ pedal bicycles, and 200+ electric-assist bicycles (also known as "e-bikes"). The Transportation Council is committed to supporting the region's municipalities in establishing appropriate policy frameworks for e-bikes and other micromobility.

Other notable transportation services have also emerged in the region in recent years. CDTA's Flex OnDemand service operates 19 vehicles across Colonie, Guilderland, and Latham. The Flex program offers customers on-demand or call-in booking to request rides in a CDTA-operated, shared use vehicle. Additionally, the DRIVE car sharing program hit the road in January 2023. This program is an all-electric car share operating in seven locations around the Capital Region. Customers can make reservations online or with a smartphone app and book a vehicle by the hour. These options are examples of the intersection of technological advancement with transportation. More opportunities for innovation are expected to emerge over time.



Extreme Weather

Extreme weather has the potential to greatly disrupt operations of the transportation system, in some cases with little warning. Extremes that are particularly relevant to the Capital Region are flash flooding from intense rainfall, winter storms, and heat waves. In recent years, intense rainfall events have become more frequent (see **Figure 3-11**). When extreme weather meets infrastructure at or near the end of its useful life, there is the potential for serious damage to the infrastructure as well as risks to human life and public safety. Building resilience into the transportation system will be important in the future.

An Increase In Traffic Crashes

Traffic fatalities reached a 16-year high in 2021 in the United States. This figure is particularly alarming because in 2020, there was a sharp drop-off in vehicle-miles traveled (VMT), which is the total distance all vehicles traveled. In 2021 VMT started to increase again, but it has not yet reached pre-2020 levels. Crash data assessed as part of the Capital Region Vision Zero Safety Action plan also shows increasing fatal and injury crash rates in the Capital Region (see **Figure 3-12**).

FIGURE 3-11: NUMBER OF DAYS WITH STORM EVENTS IN THE CAPITAL REGION (2010-2022)
SOURCE: NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION

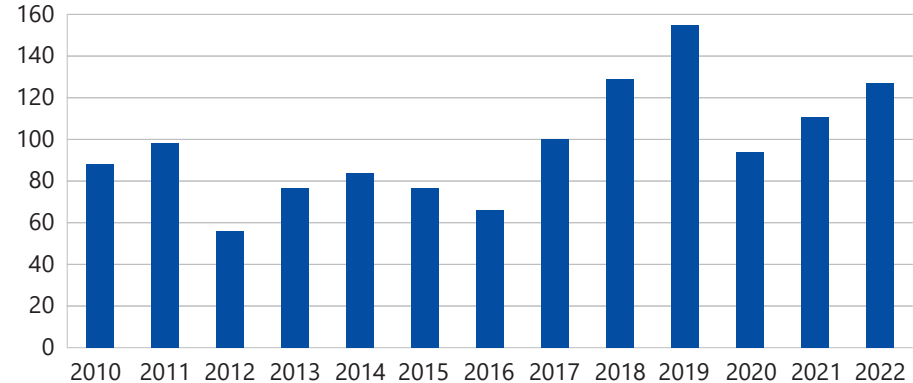
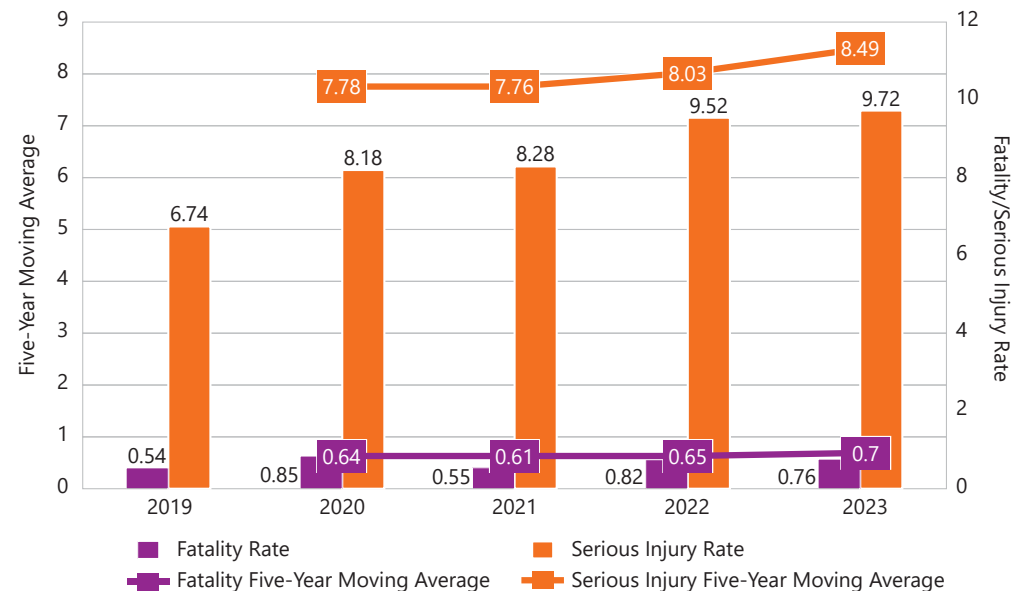


FIGURE 3-12: REGIONAL FATALITY AND SERIOUS INJURY RATE TREND (2019-2023)
SOURCE: DRAFT CAPITAL REGION VISION ZERO SAFETY ACTION PLAN, 2025,
PREPARED BY THE TRANSPORTATION COUNCIL.



The upward trend of crashes on the region's roadways, particularly serious injury and fatal crashes, is concerning. Advanced vehicle safety technologies like collision avoidance, lane departure warnings, and emergency braking have aimed to reduce the severity of crashes and improve road safety. However, distracted driving, impaired driving, and speeding remain significant contributing factors to the upward trend

of crashes in the region. A troubling national trend is the growing road safety risks to people who are not vehicle occupants, including pedestrians and cyclists. **Figure 3-13** illustrates the overall increasing crash trends in the Capital Region for various crash categories as compared to those of New York State. The Transportation Council places a high priority on working with governmental and other partners to reverse these trends.

FIGURE 3-13: CAPITAL REGION FATALITIES AND SERIOUS INJURIES BY EMPHASIS AREA COMPARED TO NYS. (2019-2023)
SOURCE: DRAFT CAPITAL REGION VISION ZERO SAFETY ACTION PLAN, 2025, PREPARED BY THE TRANSPORTATION COUNCIL.

NY SHSP Emphasis Area	Crash Category	2019	2020	2021	2022	2023	Capital Region Trend	NYS Trend
Intersections	(All)	103	100	140	215	235	▲	▲
Vulnerable Road Users	Bicyclists	18	18	21	33	28	▲	▲
	Pedestrian	66	54	66	80	77	▲	▼
	Road Workers	0	0	1	0	0	-	▼
Road User Behavior	Alcohol	44	47	53	52	54	▲	▲
	Drugs	9	18	15	13	12	▲	▼
	Cell Phones	1	4	5	4	4	▲	▲
	Distracted	83	75	95	82	86	▲	▼
	Asleep	15	8	24	25	11	▲	▼
Roadway Departures	Roadway Departures	110	112	112	104	111	▼	▲
	Head-On	41	28	39	48	40	▲	▲
	Sideswipe	8	6	9	9	11	▲	▲
Alternate Road Vehicles	Buses	8	1	0	4	7	▲	▼
	Motorcycles	78	99	92	103	77	▲	▲
	Trucks	31	31	29	34	33	▲	▼
Age Related	65+	125	98	136	132	153	▲	▲
	<21	76	69	88	89	79	▲	▲
Aggressive Driving	Aggressive Driving	8	11	10	11	9	▲	▲
	Following Closely	77	50	56	79	68	▲	▼
	Traffic Control	25	36	42	46	54	▲	▼
	Unsafe Speed	121	117	132	132	113	▼	▲

Aging Infrastructure

Preserving and managing the region's transportation infrastructure has been a central principle of the Transportation Council's previous long-range plans and remains at the core of the *In Motion Plan*. Much of the region's road infrastructure dates from the post-war period in the 20th Century when highway building was at its national apex.

Many of the region's bridges over the Hudson and Mohawk Rivers are at or nearing the end of their useful life (see **Figures 3-14 and 3-15**). While the region invests hundreds of millions of dollars annually in maintaining infrastructure assets in serviceable conditions, once an asset reaches the end of its useful life it will generally require replacement or major rehabilitation.

FIGURE 3-14: HUDSON RIVER CROSSINGS IN THE CAPITAL REGION (AS OF 2024) SOURCE: NYSDOT BRIDGE DATA

Bridge(s)	Vehicles per Day	Year Built	Age (in 2024)	Responsible Agency
Alfred H. Smith Bridge	Rail Bridge	1924	100	Rail
Castleton Bridge (NYS Thruway Berkshire Spur) *	14,000	1958	66	NYS Thruway
Dunn Memorial Bridge (US-20)	35,000	1969	55	NYSDOT
Livingston Avenue Bridge (CSX and Amtrak) *	Rail Bridge	1902	122	Rail
Patroon Island Bridge (I-90)	65,000	1968	56	NYSDOT
Troy-Menands Bridge (NY-378) **	37,000	1932	92	NYSDOT
Congress Street Bridge (NY-2)	12,000	1969	55	NYSDOT
Green Island Bridge	13,000	1982	42	NYSDOT
Collar City Bridge (NY-7)	49,000	1981	43	NYSDOT
NY-470 Bridge	14,000	1924	100	NYSDOT
Troy-Waterford Bridge (US-4)	11,000	1909	115	NYSDOT
Mechanicville Bridge (NY-67)	7,000	1946	78	NYSDOT
Rail Bridge, Stillwater (B&M Railroad)	Rail Bridge	1914	110	Rail
Stillwater Bridge	4,000	1930	94	NYSDOT
Schuylerville Bridge	9,000	1997	27	NYSDOT
Dix Bridge (Shared-use trail)	Trail	1895	129	NYSDOT
Northumberland Bridge	4,000	1917	107	NYSDOT

*Construction began in 2025 and is expected to be completed in 2028.

**A Planning and Environmental Linkages (PEL) Study is expected to be completed by NYSDOT in 2025.

FIGURE 3-15: MOHAWK RIVER CROSSINGS IN THE CAPITAL REGION (AS OF 2024) SOURCE: NYSDOT BRIDGE DATA

Bridge(s)	Vehicles per Day	Year Built	Age (in 2024)	Responsible Agency
NY-32 Bridge	15,000	2018	6	NYSDOT
D&H Railroad Bridge, Cohoes	Rail Bridge	1921	103	Rail
Route 9 Bridge	20,000	1996	28	NYSDOT
I-87 Thaddeus Kosciuszko Bridge ("Twin Bridges")	103,000	1959	65	NYSDOT
Rexford Bridge (NY-146)	23,000	2017	7	NYSDOT
D&H Railroad Bridge, Schenectady	Rail Bridge	1911	113	Rail
Freeman's Bridge	26,000	1985	39	NYSDOT
CSX Railroad Bridge, Schenectady	Rail Bridge	1982	42	Rail
Western Gateway Bridge (NY-5)	23,000	1974	50	NYSDOT
NY-890 Bridge (Thruway interchange)	19,000	1998	26	NYSDOT
Springfield Terminal Bridge, Rotterdam	Rail Bridge	1912	112	Rail
NY-103 Bridge, Rotterdam	2,000	1914	110	NYSDOT
CSX Bridge, Rotterdam	Rail Bridge	1925	99	Rail

This infrastructure legacy presents both challenges and opportunities. It requires a level of spending on maintenance that can be difficult to accommodate within limited agency budgets. However, replacement also presents the opportunity to right size overbuilt infrastructure and coordinate the addition of infrastructure enhancements for other types of transportation.

An excellent example of this is Interstate 787 through Albany, which is nearing the end of its useful life. This major asset could be enhanced rather than re-built it as-is, and the Transportation Council has supported NYSDOT as it re-imagines this important corridor to best serve the needs of the traveling public and the communities that host I-787.

HADLEY BOW BRIDGE IN THE TOWN OF HADLEY





CHAPTER 4

ASSESSING THE FUTURE



INTRODUCTION

Understanding what the future may hold for the Capital Region is key to making informed decisions about policies and investments in the transportation system. The Transportation Council utilized scenario-planning exercises, a needs assessment, and public input to assess these future developments. This chapter summarizes the findings of these efforts.

WHAT IS SCENARIO PLANNING?

Scenario planning helps the Capital Region prepare for what the future may bring by exploring what's happening now, what could change, how changes could affect the region, and what strategies can help prepare for those impacts. The goal of scenario planning is to help the region consider how varied future trends may affect transportation needs. Two approaches to scenario planning were undertaken in support of the *In Motion Plan*: a scenario planning workshop and scenario modeling. Full summaries are included in **Appendix E**: Planning Scenario Summary and **Appendix F**: Scenario Modeling.



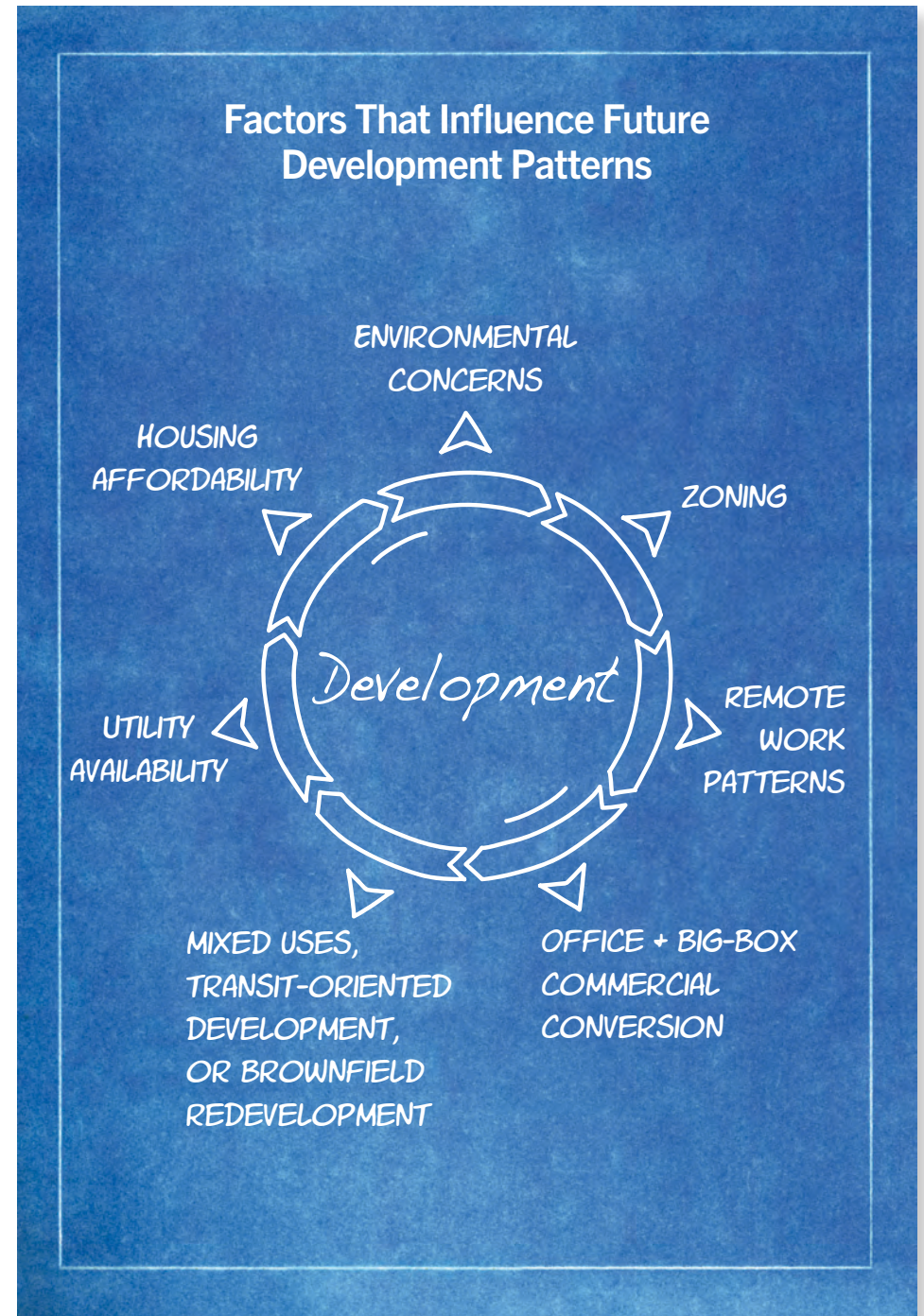
DEVELOPMENT AND TECHNOLOGY

While there are many driving forces that can influence the future of the Capital Region, development patterns and technology were identified as the two with the greatest potential to drive change.

Development

Development patterns throughout the Capital Region are shaped by the location and organization of land uses such as housing and employment centers. They may be densely concentrated (compact development), widely dispersed (sprawl development), or somewhere in between. Factors that influence future development patterns include:

- Residential, commercial, industrial, agricultural, and mixed use zoning
- Support for mixed uses, transit-oriented development, and brownfield redevelopment
- Office and big-box commercial conversion
- Housing affordability
- Remote work patterns
- Environmental concerns (flood risk, heat islands, soil quality, watershed protection)
- Utility availability (water/sewer, energy, broadband, waste management)



Technology

New and emerging technologies are increasingly influencing how the region's transportation system functions. The degree to which these technologies will be adopted for widespread use and when are emerging questions. Today, there are ongoing conversations on how best to prepare for new vehicle technologies (i.e., alternative fuel, automated, or connected), new vehicle types (i.e., e-bikes, scooters, microcars, autonomous shuttles, drones, and robots), and the infrastructure needed to support them.

Examples of emerging technologies that the Transportation Council is monitoring include:

Autonomous Personal Vehicle



If self-driving technology matures, travelers may choose to make more trips due to the ease and convenience of having a robot chauffeur. This may lead to an increase in vehicle-miles traveled and may also lead to new mobility options for individuals who are unable to drive themselves.

Autonomous Shuttles & Taxis



Autonomous shuttles, are being tested in trials around the country and may provide an option to address workforce shortages. Autonomous taxis may serve a crucial role in providing on-demand transit options as the technology matures.

Shared Micromobility



Common in many regions, electric bicycles and electric scooters may be rented to make short trips and intermodal "last mile" connections. Use cases in the Capital Region may be explored further.

Urban Air Mobility (UAM)



Through the use of unmanned aerial "drone" technology, Urban Air Mobility could radically change how people and cargo are transported. Applications under study include air taxis, cargo shipments, rapid medical transport, infrastructure inspection, and more.

Connected Vehicle Technologies



These are communications technologies through which cars and trucks "talk" to each other and the objects around them through electronic messaging. Many Connected Vehicle technologies are safety related, such as collision warning systems, "road work ahead" warnings, and emergency vehicle warnings. Connected Vehicle technologies also have applications in transportation data collection and traveler information systems.

WHAT-IF SCENARIO PLANNING FOR THE CAPITAL REGION

To support the *In Motion Plan*, the Transportation Council led a dedicated scenario planning workshop with its In Motion Task Force and considered five potential scenarios for the Capital Region's future. The scenarios blended development patterns and technology as follows:

What if...?

Connected Centers – Advanced technologies shape how the region grows and moves, enabling new development patterns through sophisticated systems management (high technology/high intensity development).

What if...?

Main Street Districts – Proven technologies enhance rather than reshape traditional development patterns (low technology/high intensity development).

What if...?

Wired Outlands – A more sprawling region where the use of advanced technology enables isolated development, separation of uses, and car dependency (high technology/low intensity development).

What if...?

Scattered Suburbs – A near-rejection of tech-enabled solutions in favor of traditional car-oriented infrastructure and development patterns (low technology/low intensity development).

What if...?

Business-As-Usual: Regional Momentum – The continuation of current trends in development patterns and technology.





Dense, Centralized

Main Street Districts

Proven technologies enhance rather than reshape traditional development patterns (low technology/high intensity development).

Connected Centers

Advanced technologies shape how the region grows and moves, enabling new development patterns through sophisticated systems management (high technology/high intensity development).

DEVELOPMENT

TECHNOLOGY

TECHNOLOGY

DEVELOPMENT

Scattered Suburbs

A near-rejection of tech-enabled solutions in favor of traditional car-oriented infrastructure and development patterns (low technology/low intensity development).

Wired Outlands

A more sprawling region where the use of advanced technology enables isolated development, separation of uses, and car dependency (high technology/low intensity development).



Dispersed



Reduced Uptake
and Impacts



Intense Uptake
and Impacts

KEY WORKSHOP FINDINGS

The scenario-planning workshop identified several important themes relevant to the four development and technology scenarios and the *In Motion Plan*:

Infrastructure Flexibility

Transportation infrastructure should be maintained with flexibility so it can easily adapt to changing conditions and needs. It should be context sensitive and not overdesigned for automobiles. However, flexibility may limit the effectiveness of autonomous vehicles (AVs), which require more standardized roadway infrastructure.

Multimodal Options

Integrated solutions across different transportation modes will be needed as existing modes evolve, and new modes may be introduced. Transit (including bus rapid transit and the prospect of light rail), micromobility (including e-bikes and other forms of personal mobility), pedestrian improvements, connected trail networks, and community mobility hubs (integrated with other community uses and events) should be prioritized.

Regional Coordination

Enhanced regional governance and coordination will be needed to achieve the Capital Region's future vision. Barriers to local government coordination are a challenge that will need to be overcome. Strategies that may support regional coordination include tax revenue sharing, standardized infrastructure and signage, and coordinated utility upgrades.

Resilience

Resilience related to power, utilities, and infrastructure will be needed. Supportive strategies include extreme weather resilience strategies, power grid improvements, water/sewer system upgrades, and the maintenance of existing infrastructure.

Technology Integration

With different technology environments in each scenario, identified strategies varied. However, there is a need to create frameworks for evaluating and integrating new technologies and ensuring that 1) basic infrastructure (like broadband) supports technology adoption; 2) both high-tech and low-tech solutions are considered to address different parts of the region and their different challenges; and 3) data and systems management needs are addressed proactively.

Transportation and Land Use Integration

The critical connection between transportation and development patterns should be prioritized. Housing affordability, mixed-use development, and the need to explicitly connect transportation investments with land use strategies will be increasingly important.

Economic Viability

Attracting new business and talent to the Capital Region will require strategies that support local economies, create flexible spaces for economic activity, and address freight and delivery needs.

SCENARIO MODELING

As a follow-up to the Scenario Planning Workshop, the Transportation Council used its travel demand model to further explore a different set of alternative future scenarios. The advantage of using the travel demand model is that the findings are quantifiable, complementing the qualitative outcomes from the workshop. The travel demand model is limited to assessing motor vehicle travel.

.9M by 2050

Baseline Growth

The Transportation Council's pre-existing forecast of future growth. This scenario forecasts a regional population of 895,000 in 2050 in the same areas the region is growing today.

1M by 2050

**Business-as-Usual
Growth to 1M**

Regional population grows to 1M by 2050, with the additional growth taking place in the same areas as in the Baseline Growth scenario.

1M by 2050

**Compact Non-Auto-
Oriented Growth**

Regional population grows to 1M by 2050, with the additional growth taking place in areas that already have the highest population density¹ and are the most compact.

1M by 2050

Sprawling Growth

Regional population grows to 1M by 2050, with the additional growth taking place in areas that currently have the lowest population² leading to greater sprawl.

LAND USE SCENARIOS

Four hypothetical future land use scenarios were evaluated, each informing different perspectives on the question - How would travel patterns change if the population of the Capital Region grew from 850,000, as of the 2020 U.S. Census, to 1,000,000 (1M) residents in 2050. The four land use scenarios were:

¹ Population growth was assigned to the top 25% of TAZ by population density.

² Population growth was assigned to the bottom 25% of TAZ by population density.

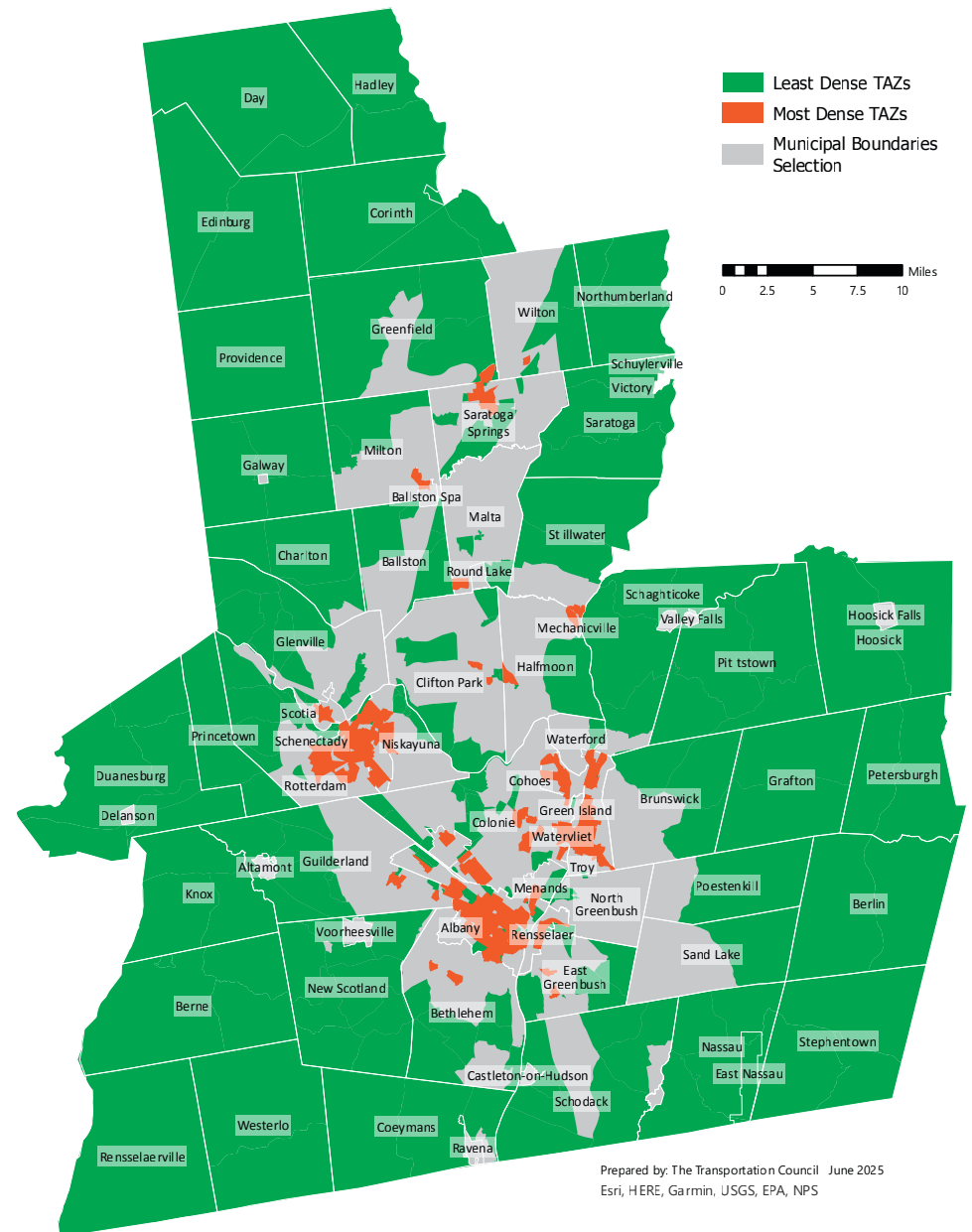
Figure 4-1 shows the areas of the Capital Region by Traffic Analysis Zone that would receive population growth under the Compact and Sprawling land use scenarios. Traffic Analysis Zones (TAZ) are units of geography used by the travel demand model to break down regional travel into smaller areas to understand where vehicle trips begin and end.

TRANSPORTATION SYSTEM SCENARIOS

After simulating these different ways that the regional population might grow to a million people, three investment scenarios for the Capital Region, limited by the travel demand model to motor vehicle transportation, were studied.

- 1. No change to the Road Network**
- 2. Overall Improved Traffic Flow** – General improvements in traffic management techniques were assumed, including efficient traffic signal operations, improved incident-management, and other operational measures. Road capacity was increased for all roads in the region by 5% in the model.
- 3. Hotspot Improvements to Traffic Flow** – Assumes a program of targeted investment in road capacity at the most-congested locations in the region. Road capacity was increased for the top 5% of congested road segments by 25% in the model.

FIGURE 4-1: IDENTIFIED POPULATION GROWTH AREAS FOR SCENARIO MODELING



FINDINGS FROM SCENARIO MODELING

If the region's population reaches 1M in 2050 without transportation system investment, the result is forecasted to be growing congestion. **Figure 4-2** presents a summary of results³ for a typical weekday afternoon peak travel hour.

FIGURE 4-2: PERFORMANCE METRICS OF STEP MODEL SCENARIOS RELATIVE TO BASELINE 2025 CONDITIONS (TYPICAL WEEKDAY PM PEAK HOUR IN 2050)

2050 Scenario	Miles Driven per Person	Average Driving Speed	Air Pollution
Base (895K population)	No change (baseline scenario)		N/A
Business-as-Usual (1M population)	-1%	-6%	N/A
Compact Non-auto-oriented Growth (1M population)			
By itself	-6%	-5%	Better
+ Improved Traffic Operations	-5%	-3%	Better
+ Hotspot Improvements	-4%	2%	Better
Sprawling Growth (1M population)			
By itself	8%	-8%	Worse
+ Improved Traffic Operations	8%	-6%	Worse
+ Hotspot Improvements	9%	-1%	Worse

3 Full details of the Scenario Modeling exercise and findings are in Appendix F.

If the additional population needed to reach 1M is added through Compact Growth, traffic is forecasted to move slower during the afternoon peak but not as slow as in the Sprawling Growth scenario. Sprawling Growth not only is projected to yield the slowest average traffic speeds (i.e. the most congestion) but is also likely to increase the miles driven per person. Further, Sprawling Growth is predicted to worsen air quality, whereas Compact Growth may improve it as the number of miles driven per person is reduced.

How should the region address congestion in the future? Of the transportation scenarios assessed, the Hotspot Improvements scenario would have a greater impact on reducing congestion than the Overall Improved Traffic Flow scenario. However, focusing solely on congestion reduction through additional road capacity can encourage people to drive more, an effect known as induced travel. The Hotspot Improvements scenario would likely have this effect. Caution is needed to achieve congestion reductions without encouraging more driving. While Hotspot Improvements may help in the specific parts of the road network where they are implemented, their likely higher implementation costs along with the resulting increase in miles driven more than nullify the benefits provided by that scenario. The Overall Improved Traffic Flow scenario would be more cost effective for reducing congestion in both land use scenarios and would likely not encourage induced travel.

This scenario analysis highlights the relationship between land use development patterns in the Capital Region and the performance of the transportation system. Integrated land use and transportation system planning has been a cornerstone of the Transportation Council's planning approach for over 25 years. The *In Motion Plan* will continue support for integrated community planning and will encourage the implementation of cost effective transportation system improvements whenever possible.





NEEDS ASSESSMENT

A third aspect of planning for the future is to establish the baseline needs for keeping the Capital Region's transportation infrastructure in a state of good repair⁴. The Transportation Council worked closely with partner agencies who maintain the roads, bridges, and transit system⁵, and accounted for what it will take to maintain the region's sidewalks and trails.

Needs: Roads, Bridges, and Culverts

NYSDOT provided the Transportation Council with the most up to date pavement and bridge condition data as shown respectively in **Figures 4-3 and 4-4**. Building from that data, NYSDOT performed a set of "what-if" analyses of maintenance spending to support the *In Motion Plan*. This approach not only established maintenance needs for the road network and bridges but also included "what-if" evaluation of increasing or decreasing maintenance investment by 15%.

Under a business-as-usual scenario, \$138M would be spent on pavement maintenance out to the year 2035, generally improving pavement condition.

⁴ Appendix G presents the full detail of the Needs Assessment, including study of the effect of increasing or decreasing pavement and bridge maintenance funding by 15%.

⁵ For roads and bridges, this is primarily the New York State Department of Transportation (NYSDOT) and for the region's transit system it is the Capital District Transportation Authority (CDTA).

A similar study of the condition of the region's bridges found that business-as-usual maintenance spending on bridges would be an investment of \$525M by 2035. However, without further spending beyond this amount bridge conditions would degrade over time.

In addition to roads and bridges, there is increased emphasis on the need to maintain the region's road culverts which channel water from streams or other smaller watercourses under roadways. Using data from NYSDOT, the Transportation Council estimates that there is a need for \$111M in spending on culverts during the lifetime of the *In Motion Plan*.

Beyond pavement, bridges, and culverts, many other important parts of the region's road system will need future maintenance. While it was not possible to cover all roadside infrastructure assets, one important item is the region's traffic signals, a.k.a. traffic lights. As an illustrative example, it would cost roughly \$300M to replace all of the Capital Region's 1,100 traffic signals over the lifetime of the *In Motion Plan*.

FIGURE 4-3: PAVEMENT CONDITION DATA. SOURCE: NYSDOT REGION 1

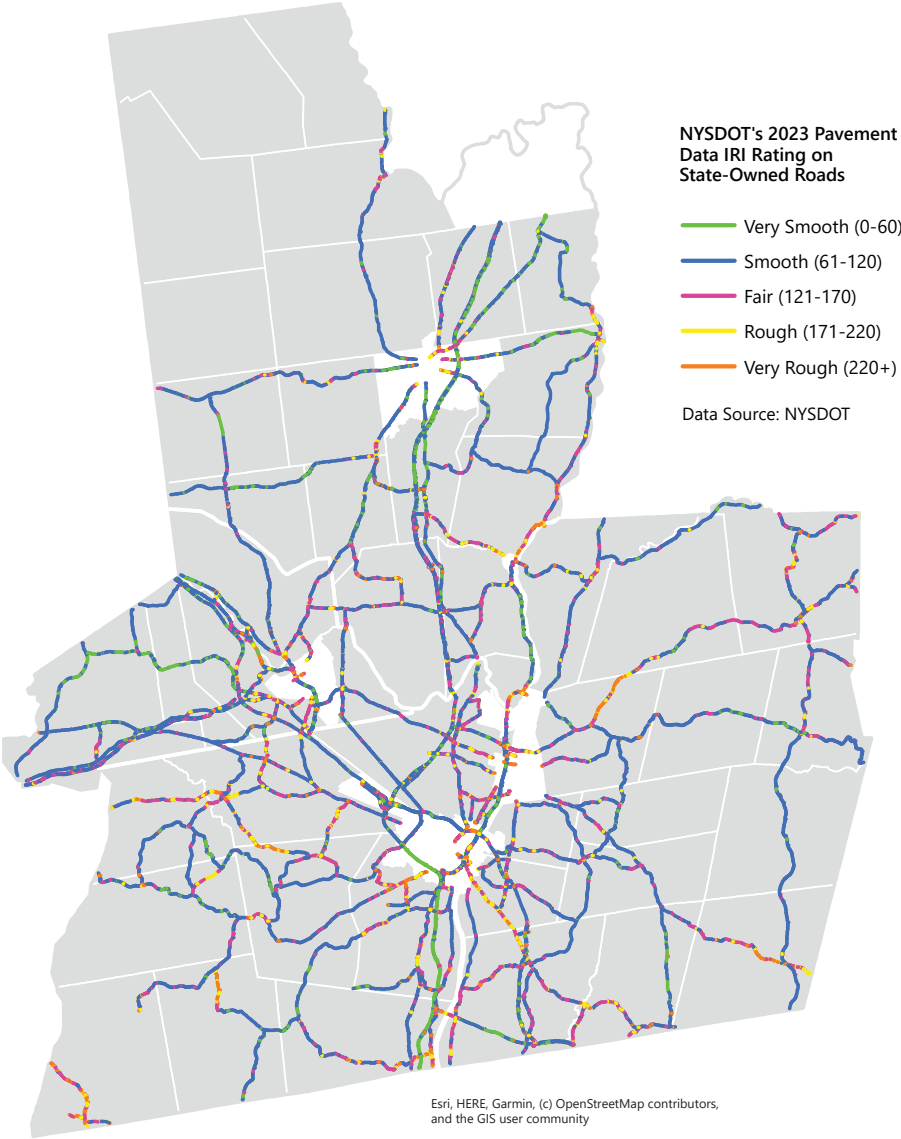
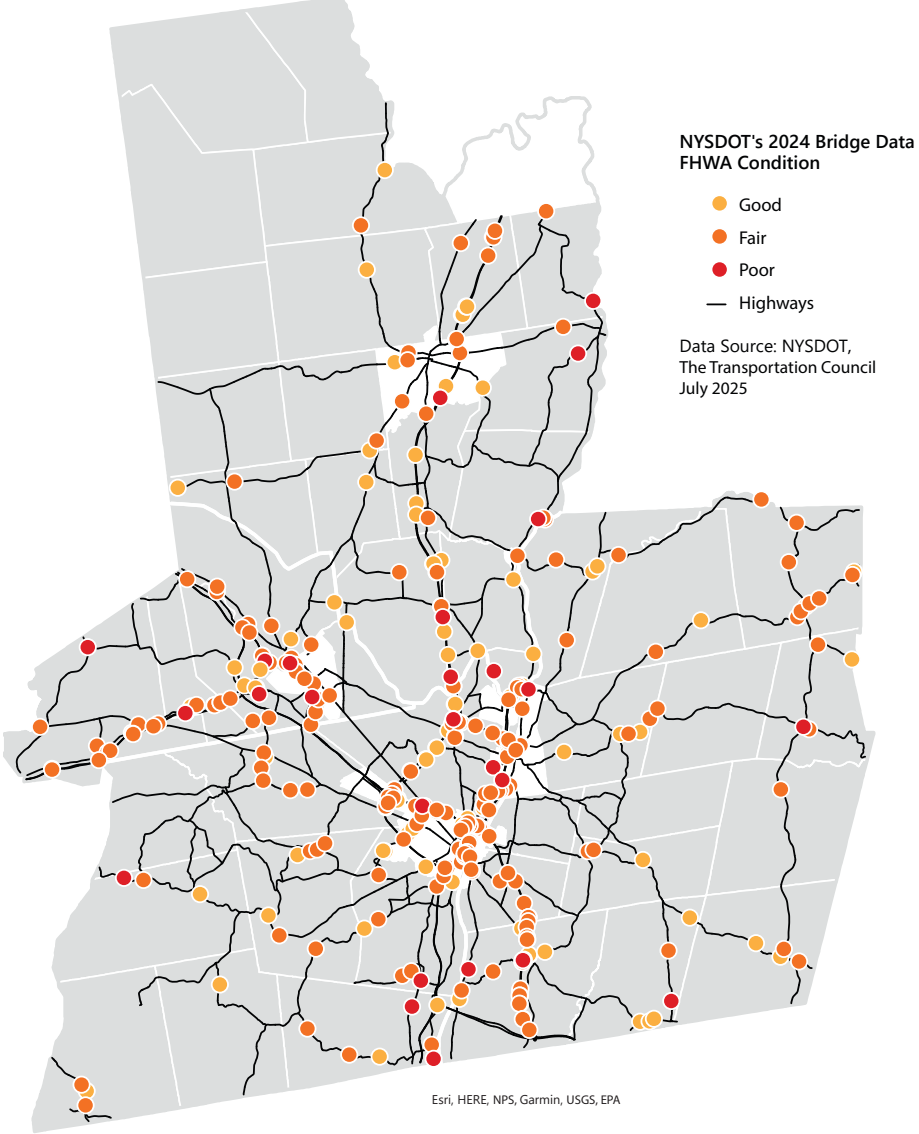


FIGURE 4-4: BRIDGE CONDITION DATA. SOURCE: NYSDOT REGION 1



Needs: Transit System

The Transportation Council studied which of CDTA's transit vehicles need to be replaced during each year to maintain the overall fleet in a state of good repair. The results showed that it will cost an estimated \$519M, spread out over the 25 years of the *In Motion Plan*.

It is important to note that this study considered the costs of replacing vehicle.. like-for-like – meaning diesel-powered vehicles replaced by new diesel-powered vehicles. It is estimated to cost an additional \$486M to upgrade the transit fleet to battery electric vehicles – not including the costs of the charging infrastructure.

A second caveat is that this study focused on rolling-stock and does not consider the costs of replacing any of CDTA's non-rolling-stock infrastructure (maintenance facilities, operational systems, stations and shelters, etc.) out to the year 2050. It is noted that CDTA's West Facility in Schenectady and the proposed Greyhound Bus Terminal have both been identified as in need of capital improvements.



Needs: Active Travel (Sidewalks and Trails)

The Capital Region has many types of infrastructure that enable active travel including sidewalks, trails, and a host of bike facilities as shown in **Figure 4-5** (lanes, sharrows, bike boxes, etc.).

The vast majority of the region’s bike facilities were installed more than 5 years ago, meaning that maintenance will be a growing need for this type of unique infrastructure. It is assumed that in most cases, this will be done along with regular road maintenance.

For sidewalks, the majority of the region’s facilities (whose conditions are known) are in “Good” condition (see **Figure 4-6**). The Transportation Council studied what it will cost to maintain and reconstruct sidewalks over time, with an overall cost of \$4.8B. In many cases, the local level of government and/or adjacent property owners would be responsible for maintenance.

Finally, for the Capital Region’s off-road trails, data show that nearly all of these trails are asphalt pavement (98%) which have different maintenance needs than other surface types. The maintenance needs for off-road trails in the next 20 years were estimated to be approximately \$25M.

FIGURE 4-6: SIDEWALK CONDITION.
SOURCE: TRANSPORTATION COUNCIL MEMBERS.

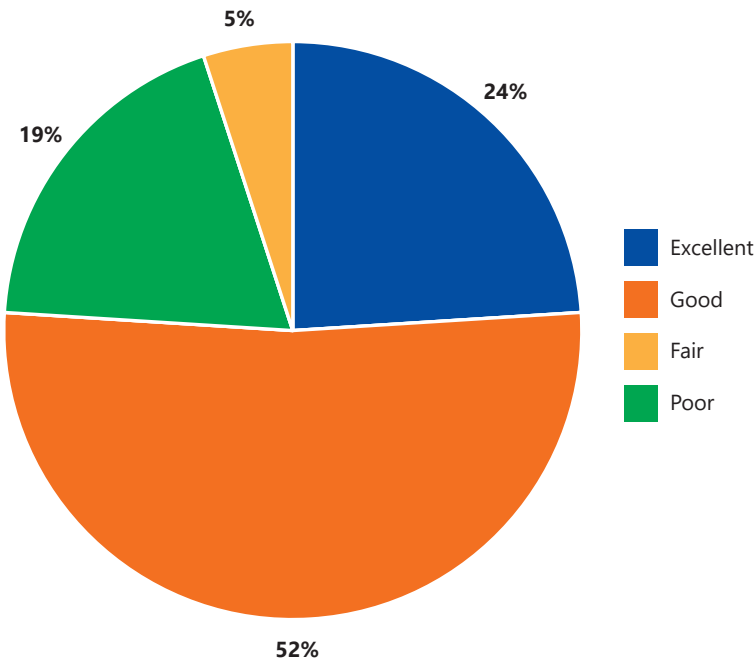
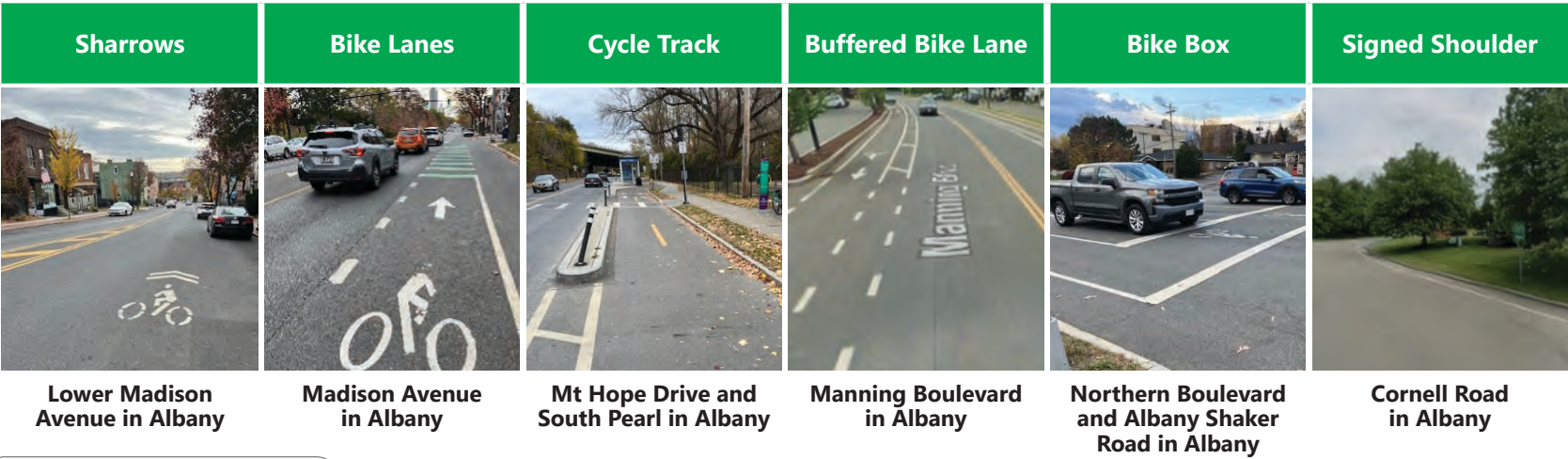


FIGURE 4-5: EXAMPLES OF BIKE FACILITIES



PUBLIC INVOLVEMENT

A final component to assessing the future is what the public thinks about the future of the region's transportation system. Throughout the development of the *In Motion Plan*, public input was sought at key milestones including through four distinct surveys. A complete summary of the public involvement activities related to the In Motion Plan is available in **Appendix J**. Approximately 800 individuals responded to the various surveys.

One of the survey questions asked for input on how future spending on transportation system improvements should be prioritized. **Figure 4-7** summarizes those results. The highest investment priorities were building sidewalks, bike lanes, and trails, more transportation options, more frequent and reliable transit, and safer roads and intersections. Fixing roads and bridges was also viewed as a priority.

FIGURE 4-7: FUTURE SPENDING PRIORITY RESULTS

Transportation Investment Idea	Top Priority	Priority	Low Priority	Not a Priority	Not Sure	Did Not Answer
Build Sidewalks, Bike Lanes, and Trails	64%	23%	4%	4%	0%	4%
More Transportation Options	55%	24%	11%	3%	0%	7%
More Frequent and Reliable Transit	51%	29%	10%	3%	1%	7%
Safer Roads and Intersections	47%	34%	9%	1%	1%	8%
Fix Roads and Bridges	40%	45%	8%	2%	2%	3%
Reduce Traffic Delays	20%	25%	32%	12%	2%	9%
Install Technology	18%	46%	22%	3%	3%	8%
More Electric Vehicle Charging Stations	16%	27%	30%	19%	2%	7%
Make It Easier to Move Goods	14%	24%	29%	16%	9%	8%
Build More Roads and Highways	6%	11%	20%	48%	6%	9%

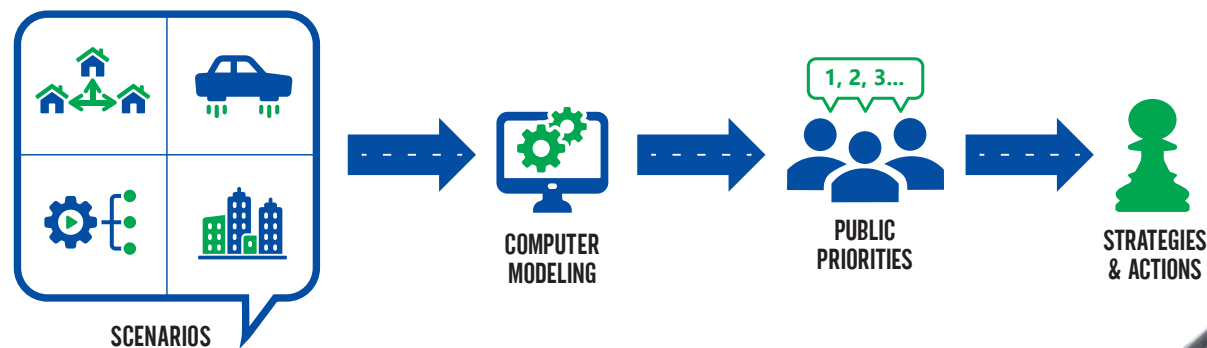
When asked about their visions for the future of the region's transportation system, public comments centered on the following themes:



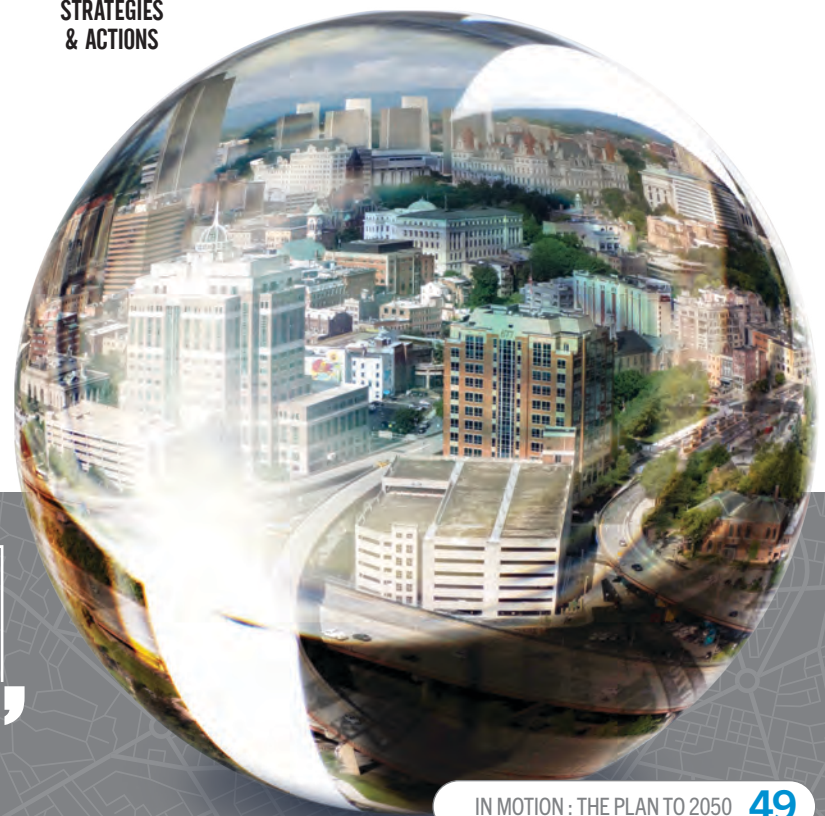
HOW ASSESSING THE FUTURE INFORMED THE IN MOTION PLAN

The Transportation Council takes a forward-looking approach to planning the Capital Region's transportation system. The various activities presented in this chapter help to determine how future background trends as well as investment decisions may affect the region's transportation system.

Using multiple approaches to assess the future – scenario-workshopping, detailed computer modeling, and input from members of the public about their priorities – ensured the *In Motion Plan* considered a range of possible futures during the planning process. The findings from each of these activities contributed to developing the plan's strategies and actions and financial plan that are presented in the next two chapters.



“The main finding was that compact development, combined with targeted investments in the road network, is the most beneficial approach.”





CHAPTER 5

HOW DO WE GET THERE?



INTRODUCTION

The Transportation Council worked diligently with our planning partners to identify strategies and actions to implement the *In Motion Plan* and deliver a transportation system that meets the region's future needs. The strategies and actions work together as an integrated system to achieve the *In Motion Plan's* vision and goals. They emerged from the work of the In Motion Task Force that guided the development of the Plan and were reassessed and refined based on stakeholder and public input.

The strategies and actions are intended to be flexible to take advantage of new opportunities as they arise and to respond to any unforeseen challenges. They will likely lead to the identification of future capital projects for inclusion in the Transportation Improvement Program (TIP) or the identification of additional planning and policy needs. The implementation of the strategies and actions will be monitored and will be used to guide our future investment in the Capital Region transportation system.

STRATEGIES AND ACTIONS

Strategies and actions are organized around seven overarching themes in no particular order:

- Maintain Transportation Infrastructure
- Create a Connected System of Multiple Transportation Options
- Plan for a Resilient Transportation System
- Enhance the Operation of the Transportation System
- Integrate Transportation and Land Use Planning
- Support Economic Development
- Align Federal, State, Regional, and Local Policies

Maintain Transportation Infrastructure

Keeping infrastructure in a state-of-good-repair requires ongoing efforts to monitor infrastructure condition, understand how it is changing, and target investment. State-of-good-repair considers the condition of our pavements, bridges, culverts, transit vehicles and facilities, trails, sidewalks, and many other assets. Typical maintenance includes preventive actions (i.e., crack sealing, street cleaning, or mowing) or corrective

actions (i.e., pavement resurfacing, bridge repair, or sign repair). When infrastructure can no longer be cost effectively maintained, replacement or reconstruction may be considered. Planning for these investments should go beyond motor vehicles to include community quality of life and safety along with public transit, walking, biking, and other emerging travel options.

MAINTAIN TRANSPORTATION INFRASTRUCTURE	Maintain existing infrastructure in a state-of-good repair. Repave roads and trails, repair and replace bridges and culverts, replace sidewalks, trails and public transit vehicles, beautify public rights-of-way, and other actions and improvements.
	Incorporate multimodal transportation options when maintaining infrastructure. When performing state-of-good repair projects, incorporate other travel options whenever possible. Where road or bridge capacity for motor vehicles is underutilized, incorporate public transit, active transportation, and complete streets treatments to re-allocate street space for modes that are currently underserved. Reconstruction and replacement projects should be planned with new space for transit, active transportation, and complete streets.
	Invest in PEL and major corridor studies. Use Planning and Environment Linkages (PEL) studies – an innovative and efficient type of transportation planning – and major corridor studies to plan for megaprojects in the Capital Region. Megaproject examples include the replacement of bridges crossing the Hudson River and the reimagining of Interstate corridors.
	Collect asset condition data. Collect asset-condition data for non-state federal aid road pavements, paved trails, concrete sidewalks, and other assets that are not currently collected through existing data collection practices. Consider building a regional pavement condition model and/or pavement asset management system to provide improved asset-condition analytics.
	Explore discretionary grants and alternative funding tools. The Transportation Council, along with state, regional, and local government partners, should increase the region’s applications for project funding through discretionary programs. Intergovernmental collaborations will strengthen project proposals and the Transportation Council can provide support for grant applications by providing data and technical assistance. The Transportation Council should also identify other funding tools that could be considered in the Capital Region including GEIS mitigation cost programs, bridge consolidation initiatives, and alternative funding sources such as regional sales taxes, user fees, and value engineering.

Create a Connected System of Multiple Transportation Options

Well-designed transportation networks connect people to the places and opportunities necessary for a high quality of life. However, past major infrastructure assets have occasionally served to divide neighborhoods and communities and limit

transportation options to motor vehicles. This set of strategies seeks to enhance the connectivity of the Capital Region’s transportation system, with emphasis on providing access to transit, bicycling, walking, and other travel options.

CREATE A CONNECTED SYSTEM OF MULTIPLE TRANSPORTATION OPTIONS	Plan for an active transportation/Complete Streets network. Identify a system of sidewalks, trails, and other infrastructure that works together to create an active transportation and Complete Streets network. Refinements to the Capital Region Trails Plan (2019) may be needed along with additional planning for the installation of sidewalks, bike lanes, trails, etc. Planning for micromobility (e-bikes, e-scooters, etc.) and other emerging forms of transportation should also be considered when creating the network.
	Encourage Complete Streets policy adoption. Encourage and support the adoption of complete street policies by municipalities and counties in the Capital Region. Complete Streets are designed and operated to enable safe and convenient travel for users of all ages and abilities, including pedestrians, bicyclists, public transportation users, and motorists based on local context.
	Implement safety improvements, emphasizing vulnerable users. Implement the Capital Region Vision Zero Safety Action Plan (2025) which identifies safety improvements, both site specific and system wide, for all transportation system users. Plan recommendations include developing a regional Vision Zero Policy, implementing a roadway safety management process to assess crash and other data, implementing Complete Streets, managing speed, providing safety education, revising local codes, and supporting post-crash care to eliminate fatalities and reduce serious injuries. Special attention will be paid to the most vulnerable users, including pedestrians, bicyclists, those with disabilities, seniors, and children. Encourage implementation of low-cost improvements first (i.e., signs, crosswalks, parking restrictions, pavement striping).
	Encourage use of universal design. Encourage the use of universal design techniques in all transportation projects and ensure the implementation of PROWAG (Public Right-of-Way Accessibility Guidelines).
	Quantify benefits of active transportation. Quantify public health, safety, economic, air quality, and other benefits when planning for active transportation and Complete Streets, which is particularly important when pursuing discretionary grants from competitively funded federal and state programs.

Plan for a Resilient Transportation System

Incorporating resilience into the Capital Region’s transportation system will help ensure that the network functions as intended. Planning for resilience should be proactive, allowing the region to prepare for and respond to transportation system disruptions due

to various hazards related to extreme weather or emergencies. A resilient transportation system is more reliable and therefore more predictable for the traveling public.

PLAN FOR A RESILIENT TRANSPORTATION SYSTEM	Identify vulnerabilities in the regional transportation system. Prepare a vulnerability assessment of the regional transportation system that considers recurring and extreme weather, infrastructure condition, security, and other risks.
	Perform resilience planning. Plan for and mitigate the impact of extreme weather, including flooding and heat, erosion, and other hazards on the local transportation system through the preparation of a Resilience Improvement Plan. The Resilience Improvement Plan should be consistent with that prepared for New York State by NYSDOT and should consider local hazard and other plans.
	Plan for emergencies. Support first responders with alternative route planning, redundant systems, advanced travel information systems, and other features. Provide information for members of the public to make informed decisions during emergencies.
	Promote stormwater management practices. Encourage regular cleaning of streets and storm drains, vegetation management, permeable pavement implementation, catch and detention basin installation, and incorporate rain gardens, bioswales, and other techniques into transportation projects.
	Plan for alternative fuel vehicles. Plan for alternative fuel vehicles and their related infrastructure. More than a dozen alternative fuels are in production or under development such as biodiesel, electricity, ethanol, hydrogen, renewable diesel, and others. Using alternative fuel vehicles helps improve efficiency, lowers costs, and reduces air pollution. Monitor the future of vehicle to grid technology, which allows vehicle batteries to feed back into the electric grid during peak times, to ensure the Capital Region makes use of this opportunity if it proves to be practical.

Improve the Operation of the Transportation System

Improving the operation of the transportation system benefits all users and helps to reduce recurring congestion. As noted in the Transportation Council’s Congestion Management Process (2023), regional objectives to address congestion include improving mobility and accessibility, reducing the economic

impact of congestion, and improving supply chain resiliency. Implementing advanced technology is the most cost-effective approach to improving traffic flow and the overall reliability of the transportation system.

IMPROVE THE OPERATION OF THE TRANSPORTATION SYSTEM	Implement Transportation Systems Management and Operations (TSMO) strategies. Improve transportation system operations by implementing strategies such as incident management, work zone management, roundabout and innovative intersection designs, dynamic road signs, road weather management systems, and access management.
	Develop the next generation Transportation Demand Management (TDM) program. Work with employers and community partners to identify incentive programs and services to manage motor vehicle demand such as microtransit services, innovative public transit, ridesharing, carpooling, parking cash out and transportation management associations.
	Develop a traffic signal and technology program. Plan for the implementation, operation, and maintenance of advanced traffic signal and other technologies such as adaptive signal systems, traffic sensors, detection cameras, communications technologies, and transit and emergency vehicle signal priority.
	Coordinate with NYSDOT to update the regional ITS Architecture. Develop a vision and technical framework for how transportation system operators will share information and resources, coordinated with the Capital Region’s Traffic Management Center, to increase real time transportation system monitoring and incident management.
	Plan for automated vehicle infrastructure and advanced air mobility. Assess and plan for infrastructure that supports automated or connected vehicles, focusing on safety, as well as personal air mobility options such as drones and helicopters.
	Consider spot widenings and connector roads. Where other strategies have been attempted or ruled out, assess the feasibility of connector roads and strategic widenings of roadways at spot locations. The assessment will consider the impacts on other travel options and adjacent land uses.

Integrate Transportation and Land Use Planning

The Transportation Council has a legacy of supporting land use planning efforts by the region’s municipalities. Many strategic community plans and zoning codes that integrate land use and transportation issues have been supported by funding through the Transportation Council, especially the Community and

Transportation Linkage Planning Program. While there is no one-size-fits-all type of planning, communities ranging from rural to very urban can integrate aspects of these strategies into their local planning to reduce trip lengths and make public transit and non-motorized travel more attractive.

INTEGRATE TRANSPORTATION AND LAND USE PLANNING	Plan for walkable communities and compact development. Support community planning and practices such as mixed-use development, transit-oriented development, and infill development. These approaches can increase access to resources such as food, public services and health care for residents of all ages and abilities. Since population projections prepared by CDRPC, as discussed in Chapter 3, show the region is aging, special attention should be given to community design that supports aging in place.
	Connect transportation and housing through planning. Study the relationship between housing and transportation, encourage workforce and senior housing in areas with transportation options, assess affordable housing options, and assess the impacts of short-term rentals on the housing market.
	Implement parking management strategies. Assess parking needs, standards, and parking management tools for both on- and off-street parking, especially in neighborhoods experiencing development.
	Implement curb management strategies. Plan for pick up/drop off zones, loading zones, driveway density reduction, raised medians, adequate turning lanes, connections between parcels, and service roads.
	Encourage intermunicipal community planning. Continue to encourage intermunicipal community planning to reduce costs and increase the effectiveness of regional transportation infrastructure improvement projects.
	Take steps toward Freight-Efficient Land Uses (FELU). Support planning for land use patterns that minimize the costs associated with both supply chains and economic activities that produce and consume goods, at all stages of production and consumption.

Support Economic Development

Transportation can be a powerful catalyst for economic development, by connecting people with jobs and connecting companies with their suppliers and markets. The Transportation Council fully supports the region’s economic development

initiatives, led by the Capital Region Economic Development Council. This set of strategies is targeted at ways that transportation investment and policy in the region can best contribute to strong economic performance.

SUPPORT ECONOMIC DEVELOPMENT	Update the Regional Freight Plan. Support investments through regional planning that updates the Transportation Council’s Regional Freight and Goods Movement Plan (2016) to address issues related to truck parking, freight operations, freight rail facilities, and other needs consistent with the New York State Freight Plan (2024).
	Plan for “superload” corridors. Support the region’s specialized manufacturing base by planning for potential “superload” road and rail corridors that support the movement of over dimension loads.
	Assess access to job centers and affordable transportation options. Explore the role of transportation in providing access to job centers and further research the jobs/housing balance. Plan for and measure outcomes for affordable transportation options. Metrics may include household transportation expenditures, trip cost per mile, vehicle maintenance and operations costs, and transit fares.
	Plan for first/last mile transportation. Plan for multiple transportation options from large employers and major transportation hubs including mobility hubs, Amtrak stations, and other transportation hubs.
	Assess the transportation impacts of special events and tourism. Through data collection and modeling tools, explore the impacts of large-scale special events and tourism on the regional transportation system.
	Support passenger rail planning. Support corridor planning efforts in New York, Massachusetts and Vermont for Amtrak passenger rail, which can support extended labor markets and increase visitation to the Capital Region.

Align Federal, State, Regional, and Local Plans and Policies

The Transportation Council interacts in various ways with all levels of government to best serve the Capital Region. This set

of strategies involves working with partners at different levels of government to ensure alignment with adopted policies.

ALIGN FEDERAL, STATE, REGIONAL, AND LOCAL PLANS AND POLICIES	Implement regional transportation plans and policies. The <i>In Motion Plan</i> incorporates numerous regional transportation plans, the strategies of which are recommended for implementation. Plans completed by the Transportation Council include the Capital Region Vision Zero Safety Action Plan (2025), Capital District Trails Plan (2019), Capital Region Bus Lane Feasibility Study (2023), Regional Freight/Goods Movement Plan (2016), Regional Truck Parking Study (2024), Smart Mobility Toolbox (2022), Coordinated Public Transit-Human Services Transportation Plan (2023), and the Congestion Management Process (2023). Plans completed by others include CDTA's Transit Development Plan (expected in 2025), the Albany Airport Master Plan (2024), and ongoing infrastructure plans at the Port of Albany.
	Implement community plans and policies. The Transportation Council has funded and supported the preparation and implementation of numerous community plans, including over one hundred Community and Transportation Linkage Planning Program Plans and ADA Transition Plans. In addition, the Council supports the implementation of the transportation recommendations within the plans of local government partners, such as Comprehensive Plans, Local Waterfront Redevelopment Plans, and other community-based plans.
	Implement asset management plans. Work with NYSDOT, CDTA, and other system operators on the implementation of Asset Management Plans.
	Implement New York State plans and policies. Plans include the NYS Transportation Master Plan (expected in 2025), NYS Carbon Reduction Strategy (2023), and the NYS Resilient Infrastructure Plan (expected in 2025).
	Implement Federal policies. Federal policy is based on legislation that is generally updated every few years as transportation funding is reauthorized. Federal plans include priorities for the highway system, transit systems, freight, and Intelligent Transportation Systems.





CHAPTER 6

FINANCIAL PLAN



INTRODUCTION

Federal law requires that Metropolitan Transportation Plans, including the *In Motion Plan*, be fiscally constrained. Projects in the initial planning stages must be shown with potential funding sources that cover currently available cost estimates. While funding sources and future inflation rates are uncertain, the objective is to provide reasonable assurance that funding will be available for projects included in the *In Motion Plan*.

There are priority projects intended to address major regional needs for which no funding is currently available. Three such projects have been designated as “Illustrative” in the Capital Region, meaning that delivering them will require funding resources that have not yet been identified. These projects are:

- Reimagining Interstate 787
- Route 378 Over the Hudson (Troy-Menands Bridge)
- I-890 Exit 4C – Schenectady Mobility and Quality of Life Improvements

The remainder of this section summarizes the financial aspects of the *In Motion Plan* and recommends how the included projects can be implemented based on expected revenues and system level cost estimates.

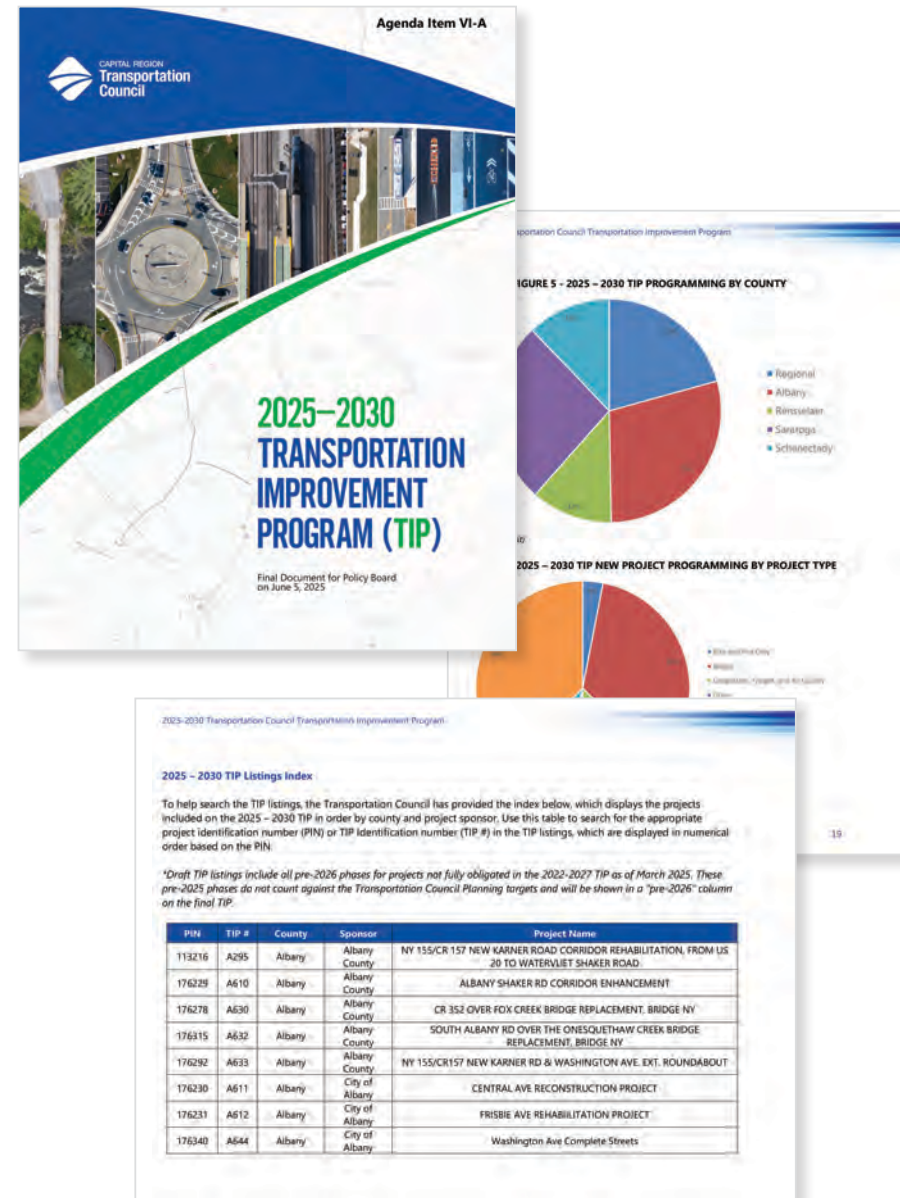


HOW WILL PROJECTS IN THE IN MOTION PLAN BE FUNDED?

To receive Federal funding, projects in the *In Motion Plan* must be part of the Transportation Council's Transportation Improvement Program (TIP). The TIP is a 5-year capital investment plan that is created by ranking and prioritizing candidate projects through a competitive process.

The current TIP¹ covers federal fiscal years 2025-2030 (federal fiscal years begin on October 1) and was adopted in June 2025. Based on the financial analysis undertaken for the *In Motion Plan*, funding is anticipated to be available for projects included in the Plan through the Capital Region's TIP through 2050, except for three illustrative projects.

Delivering the Plan's three illustrative projects will require that new funding be identified, including Federal funds which require a competitive application process. There has been a growing Federal emphasis on discretionary funding programs in recent transportation-funding laws. Only projects that are well defined, demonstrate a convincing need, and address federal priorities are likely to receive these funds. The bottom line is that the Capital Region will need to innovate, compete, and pursue all available funding options to implement projects on the Illustrative project list.



WHAT ARE THE SOURCES OF TRANSPORTATION FUNDING IN THE CAPITAL REGION?

The Capital Region's transportation network is funded in a variety of ways, by users of the system as well as Federal, state, regional, and local government partners. There are a wide range of public sector funding programs, each with their own set of criteria and rules. The Transportation Council's 2025-2030 TIP contains a full list of federal funding programs with more detailed descriptions of core federal fund sources provided in TIP **Appendix B**² and on the Federal Highway Administration's website³.

Most of the funding programs accessible to the Transportation Council are authorized as formula funds through federal law, currently the Infrastructure Investment and Jobs Act (IIJA) enacted in November 2021. Formula funding is apportioned to states and MPOs across the nation on the basis of standard funding formulas set by Congress. New York State further sub-allocates formula funds to MPOs within the state, except for smaller amounts of formula funds specifically allocated to MPOs in federal law. The *In Motion Plan's* fiscally constrained Financial Plan foresees formula funding to be reasonably stable in future years and will continue to be the foundation for the revenues. Formula funding is further broken down into two types: Core funding which is the majority of federal funds, and smaller scale additional funding programs which are provided by New York State on a competitive basis to projects across the state.

Beyond the formula funding programs⁴, the Capital Region's transportation agencies have been active in preparing competitive applications to the federal government's discretionary funding programs. The *In Motion Plan* recommends continuing this practice as an implementation strategy for Illustrative and other larger projects. Following guidance from the federal government, applications or future requests for major discretionary funds are not included in the *In Motion Plan's* Financial Plan due to the uncertainty of funding awards. When the region is successful in securing discretionary or other funding for projects on the Illustrative project list, projects can be moved to the fiscally constrained project list through the Transportation Council's amendment process for the *In Motion Plan*.



U.S. Department
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Department of
Transportation



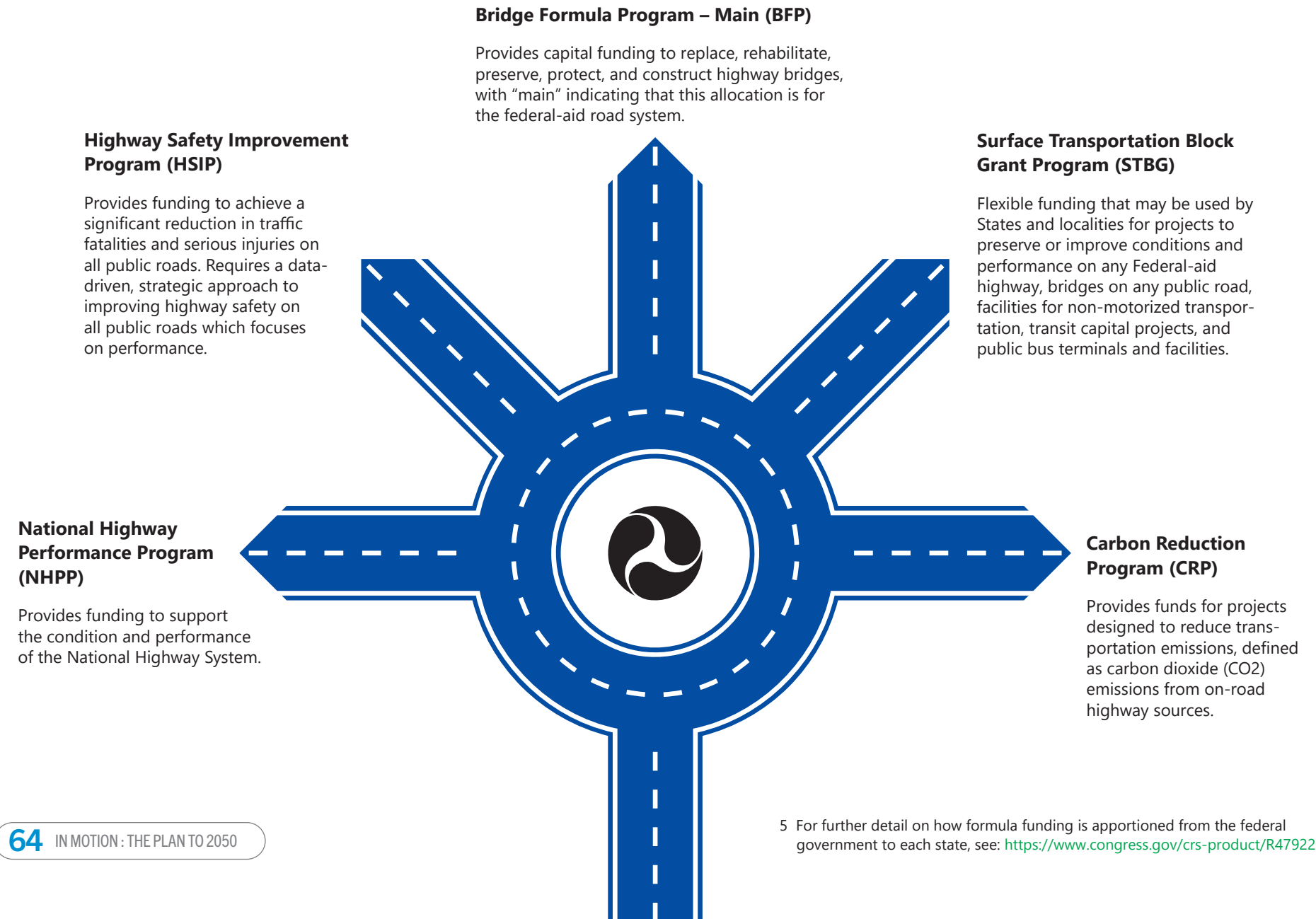
² <https://www.capitalmpo.org/tipupdate>

³ <https://www.fhwa.dot.gov/infrastructure-investment-and-jobs-act/>

⁴ A complete list of USDOT's current discretionary funding programs can be found at:
https://www.fhwa.dot.gov/infrastructure-investment-and-jobs-act/grant_programs.cfm

Major Federal Funding Programs Available to the Capital Region

Understanding available funding programs is necessary for the Transportation Council and its partners to secure resources for maintaining and improving the transportation system. Core highway funding programs⁵ allocated to the Transportation Council through federal funding programs, as currently reflected in the TIP, include:



⁵ For further detail on how formula funding is apportioned from the federal government to each state, see: <https://www.congress.gov/crs-product/R47922>

Additional federal funding programs include:

Congestion Mitigation and Air Quality (CMAQ)

Provides funds to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas).

Transportation Alternatives Program (TAP)

Provides funding for a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity.

National Highway Freight Program (NHFP)

Used to invest in infrastructure improvements and to implement operational improvements on the National Highway Freight Network.

Recreation Trails Program (RTP)

Used to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses.

Federal funding programs allocated specifically to transit:

Section 5307 (Urbanized Area Formula Funding)

Provides funding for transit capital and operating assistance as well as transportation-related planning in urbanized areas.

Section 5339 (Buses and Bus Facilities program)

Used to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities including technological changes or innovations to modify low or no emission vehicles or facilities.

Section 5310 (Enhanced Mobility of Seniors & Individuals with Disabilities)

Supports transportation services planned, designed, and carried out to meet the transportation needs of older adults and people with disabilities.

Major federal discretionary funding programs require grant applications to be submitted to USDOT by project sponsors and are awarded on a competitive basis. Discretionary programs available in the IIJA include:

Better Utilizing Investments to Leverage Development Grant Program (BUILD)

Formerly known as RAISE grants, BUILD grants are intended for surface transportation infrastructure projects that will have a significant local or regional impact. Awards can be up to \$25M.

Reconnecting Communities Pilot (RCP)

The primary goal of the RCP Program is to reconnect communities harmed by past transportation infrastructure decisions through community-supported planning activities and capital construction projects that are championed by those communities. Awards average roughly \$15M.

Safe Streets and Roads for All (SS4A)

The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway fatalities and serious injuries. The Transportation Council is managing an initial SS4A planning grant to prepare the Capital Region Safety Action Plan expected to be adopted September 2025. When complete, the region will be eligible to apply for implementation grants which can range up to \$25M each.

Strengthening Mobility and Revolutionizing Transportation (SMART)

Provides funding to conduct demonstration projects focused on advanced smart community technologies and systems to improve transportation efficiency and safety. Awards can be up to \$15M.

Congestion Relief Program

The goals of this grant program are to reduce highway congestion, reduce economic and environmental costs associated with that congestion, including transportation emissions, and optimize existing highway capacity and usage of highway and transit systems. The minimum funding amount is \$10M, and the awards average roughly \$20M.

Inflation Following the Pandemic

From 2020 to 2024, the nation experienced a period of higher-than-anticipated inflation in the costs of building, maintaining and operating the transportation system.

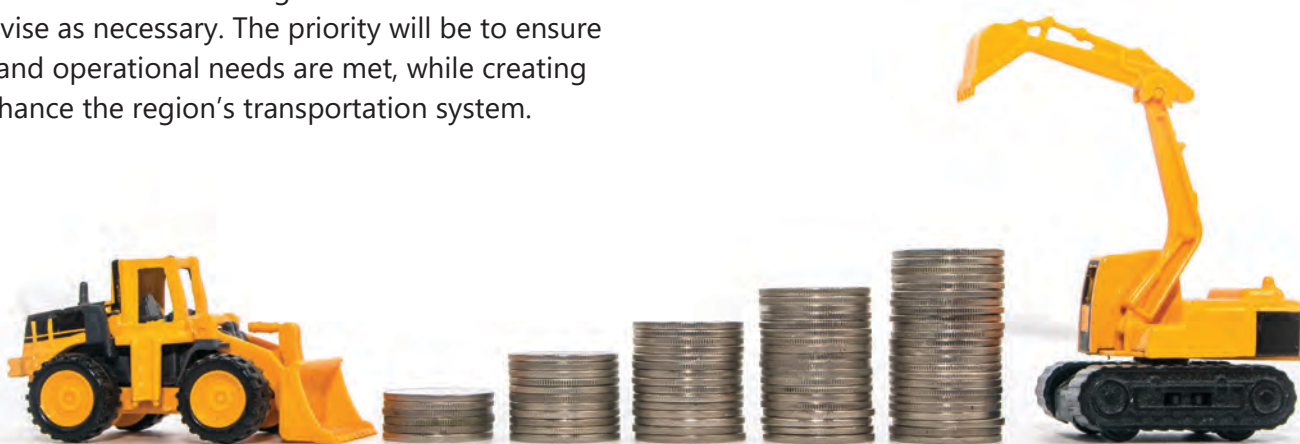
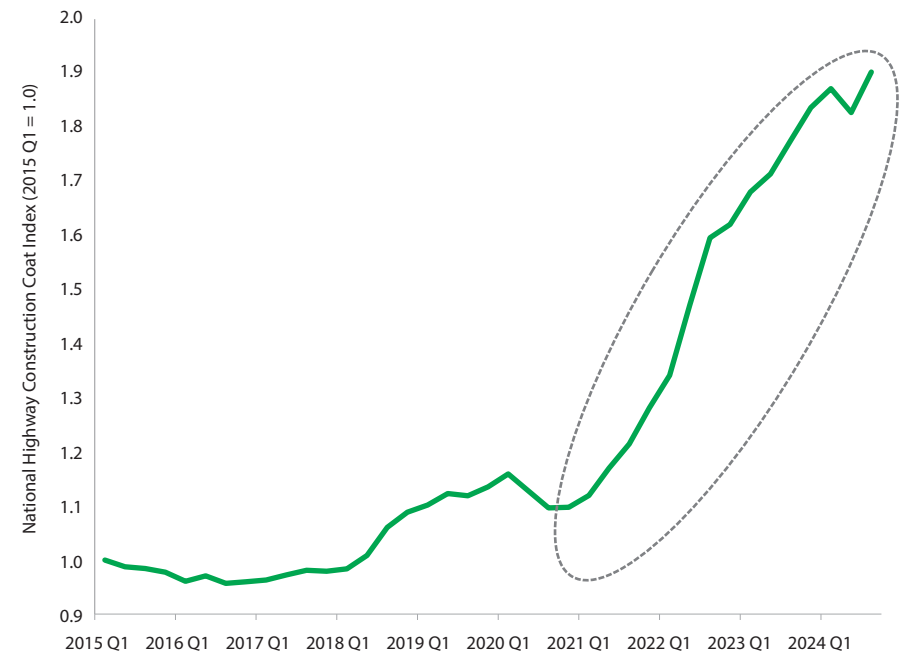
Highway construction costs nationally were 66% higher in mid-2024 than in late 2020⁶. The Capital Region was no exception to this national trend, as can be seen in the circled area in **Figure 6-1**.

It is too soon to know if this post-pandemic trend of higher inflation will moderate, especially with the relatively high degree of uncertainty in federal policy at the time of writing.

Therefore, the *In Motion Plan* uses this higher post-Covid cost structure as a starting point and assumes that future inflation will average 2% over the next 25 years. The cost estimates for maintenance, operations, and enhancement projects included in the *In Motion Plan* have been reviewed to reflect the best available estimates of future costs using this approach.

If inflation in the coming years is higher than anticipated, the Transportation Council and its member agencies will revisit these assumptions and revise as necessary. The priority will be to ensure basic maintenance and operational needs are met, while creating opportunities to enhance the region's transportation system.

FIGURE 6-1: NATIONAL HIGHWAY CONSTRUCTION COST INDEX, 2015 THROUGH 2024



⁶ The US Department of Transportation publishes the National Highway Construction Cost Index quarterly, which tracks price changes associated with highway construction costs. Details can be found at: <https://www.fhwa.dot.gov/policy/otps/nhcci/>

Local, State, and Federal Funding

The Transportation Council's primary responsibility is to allocate Federal transportation funding within the Capital Region. However, many Federal funding programs require a local match to complete the total project cost meaning that an entity such as New York State, a county, a city, town or village, or even the region's transit operator CDTA must provide a percentage of the total funding as a complement to the Federal funding. It is common to see programs require an 80% federal/20% local funding split, with 20% designated as the local match. That said, there are many transportation projects that are not eligible for Federal-aid including local roads which are built and maintained using only local funds.

State and local governments contribute greatly to the maintenance and improvement of the transportation system by providing their own funding to projects. The Transportation Council encourages these entities to pursue local projects that are consistent with the *In Motion Plan's* goals and objectives.

Figure 6-2 shows the breakdown of spending by funding source (federal, state, and municipal) and for transit and highway/active travel modes.

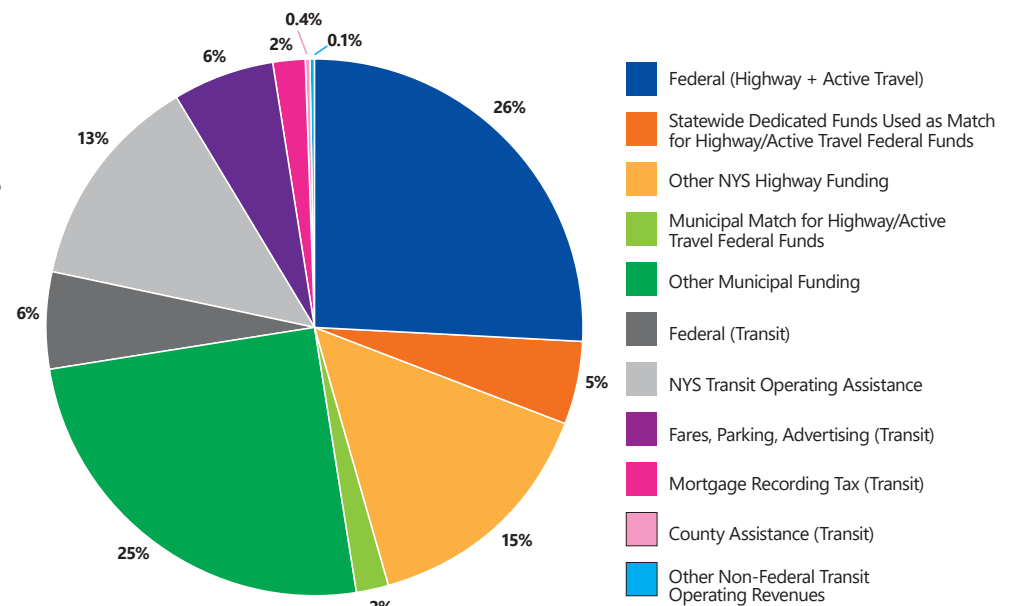
Roughly one-quarter (26%) of the regional total of anticipated funding comes from the federal government for highway/active travel purposes on the federal-aid system, with another 6% from the federal government for the transit network.

Municipal spending on non-federal-aid transportation facilities (primarily local roads) accounts for 25% of the total investment, and the contribution to the non-federal-aid system from NYS

is approximately 15% of total investment. Of this, the largest funding program in New York State is known as the "CHIPS" program (Consolidated Local Street and Highway Improvement Program) and is expected to provide nearly \$1B to the Capital Region's counties and municipalities between 2026 and 2050.

Important non-federal sources of anticipated funding for the region's transit system operated by CDTA include NYS Operating Assistance (13%), Fares/Parking/Advertising (6%), and the mortgage recording tax (2%).

FIGURE 6-2: SOURCES OF ANTICIPATED FUNDING FOR THE IN MOTION PLAN



HOW WERE THE COST ESTIMATES IN THE FINANCIAL PLAN DEVELOPED?

The *In Motion Plan* considers both revenues and expenditures related to the transportation system. The costs for each project included in the Plan were developed by the sponsor of each project, based on rigorous technical analysis. The Transportation Council then compiled the full set of cost estimates and made any necessary adjustments for inflation (depending on the year for which each cost estimate was prepared).

The forecasts of available revenues presented in the previous section were developed in consultation with Task Force membership, with additional input and feedback from NYSDOT and CDTA. Similarly, the cost estimates provided by the sponsor of each project were inflation-adjusted as necessary in the interest of consistency.

For cost estimates of road and bridge maintenance needs, NYSDOT staff undertook a detailed analysis using their AgileAssets asset-management software which simulates maintenance treatments and the resulting impacts on asset condition over time⁷. The companion analyses for transit vehicles were based on the unit costs to replace CDTA's vehicles to maintain a state-of-good-repair across the fleet⁸. The Needs Assessment for the Capital Region is available in **Appendix G**, and a summary of the headline findings can be found in Chapter 4.

⁷ The estimates to maintain the infrastructure for which NYSDOT is responsible within the Transportation Council's Metropolitan Planning Area were supplied by and are consistent with the respective asset management plans related to each category presented.

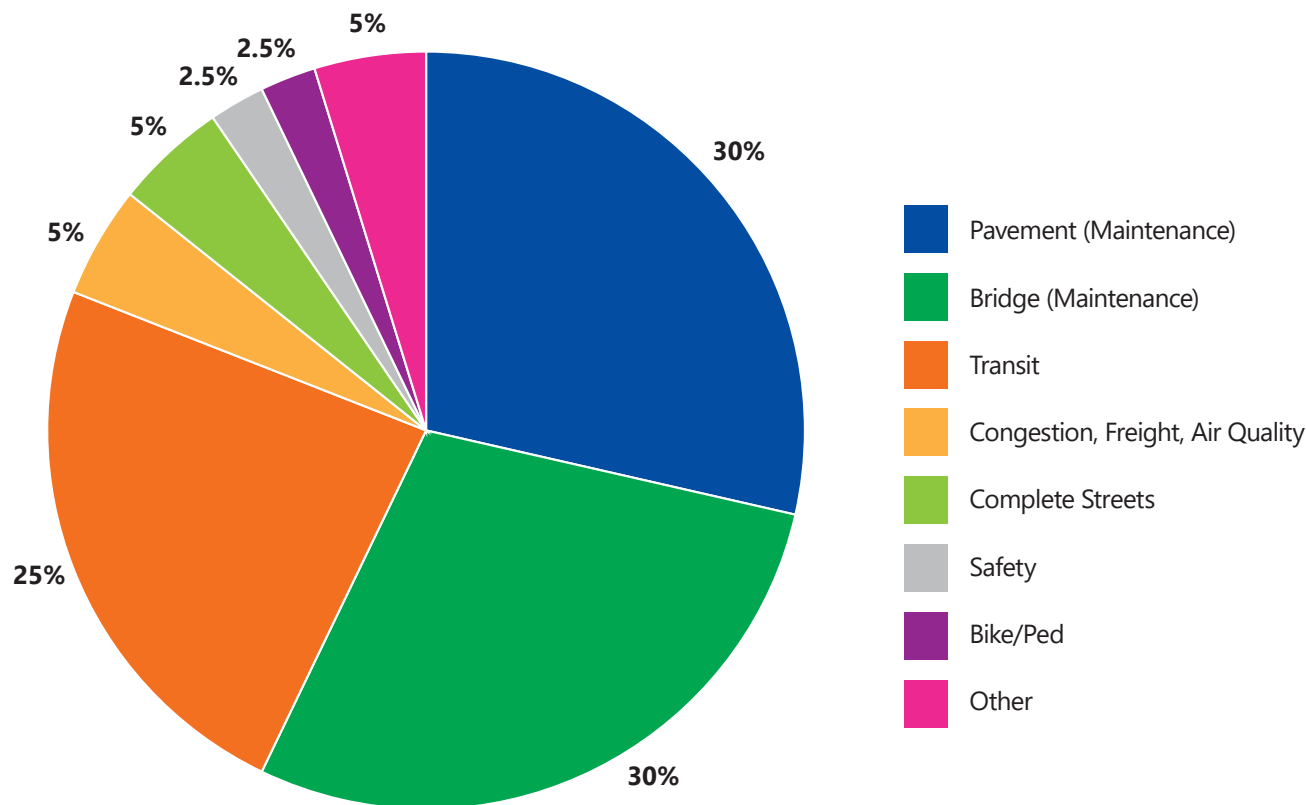
⁸ Maintenance estimates for transit infrastructure operated and maintained by CDTA (New/enhanced transit facilities, Fleet replenishment, Fleet replenishment (added costs to electrify) are sourced from and consistent with CDTA's latest asset management plans.

WHAT TYPES OF PROJECTS WILL THE TRANSPORTATION COUNCIL DELIVER?

The Transportation Council funds a variety of transportation projects throughout the Capital Region. **Figure 6-3** shows the *In Motion Plan*'s targeted breakdown of spending by project categories, which is intended to guide the development of the region's future Transportation Improvement Programs. Note that the "Bridge" and "Pavement and Complete Streets" categories include maintenance of the road system. These two categories collectively account for more than half of the anticipated investment.

This targeted allocation of spending by category is novel for the Capital Region in two important ways. First, it distinguishes between maintenance and enhancement investments. Projects submitted for TIP consideration will be categorized by whether each are entirely maintenance, entirely enhancement, or fulfill both maintenance and enhancement goals. Second, Safety is now included as a separate category to support transportation system safety enhancements as identified in the Capital Region Vision Zero Safety Action Plan.

FIGURE 6-3: TRANSPORTATION COUNCIL'S ANTICIPATED DISTRIBUTION OF FUNDING BY PROJECT TYPE



CASE STUDY

Bridges in the Capital Region over the Hudson and Mohawk Rivers



The Capital Region grew at the convergence of the Hudson and Mohawk Rivers – historically important waterways for travel, industry, and trade. Today, thirty bridges carry road and rail traffic over the Hudson and Mohawk Rivers serving as essential links in the transportation network.

These bridges are crucial to our region's economic vitality and inter-community connectivity. Many of these bridges will reach the end of their service life by 2050 with maintenance costs continuing to rise. Preservation and repair projects may extend the useful life of these assets, but the return on investment for these projects decreases greatly as a bridge approaches end-of-life. Ultimately, each of these ageing facilities must be replaced or the region risks losing essential links in its transportation system. The total cost of replacement for these bridges may run as high as \$5 billion by 2050. The ability to fund replacement of bridge facilities will likely be much more difficult the longer this work is postponed.



Over the Hudson

17 Bridges Carry



274,000
Vehicles Per Day

100 Million Vehicles Per Year

Over the Mohawk

13 Bridges Carry



244,000
Vehicles Per Day

89 Million Vehicles Per Year

FINANCIAL TABLES

Anticipated Revenue

Figure 6-4 shows the reasonably anticipated revenues of 8.7B from various federal, state, and local sources. This does not include an additional \$5.7B in local off-system spending (see next section).

FIGURE 6-4: REVENUES (IN MILLIONS) FOR THE CAPITAL REGION'S TRANSPORTATION SYSTEM, 2026-2050

	2026 - 2030	2031 - 2035	2036 - 2040	2041 - 2050	Total (2026 - 2050)
Core federal funding (highway and active travel)					
National Highway Performance Program	\$ 356	\$ 375	\$ 411	\$ 927	\$ 2,069
Bridge Formula Program (Main)	\$ 64	\$ 68	\$ 78	\$ 167	\$ 372
Highway Safety Improvement Program	\$ 33	\$ 35	\$ 38	\$ 86	\$ 192
Surface Transportation Program-Flex	\$ 58	\$ 62	\$ 68	\$ 153	\$ 341
Surface Transportation Program (Large Urban)	\$ 52	\$ 55	\$ 60	\$ 137	\$ 304
Total	\$ 563	\$ 595	\$ 651	\$ 1,470	\$ 3,279
Additional federal funding (highway and active travel)					
Carbon Reduction Program (Large Urban)	\$ 6	\$ 7	\$ 7	\$ 17	\$ 37
Carbon Reduction Program (Medium Urban)	\$ 1	\$ 1	\$ 1	\$ 2	\$ 5
Congestion Mitigation and Air Quality	\$ 42	\$ 45	\$ 50	\$ 112	\$ 248
Transportation Alternatives Program	\$ 14	\$ 15	\$ 15	\$ 31	\$ 75
National Highway Freight Program	\$ 24	\$ 27	\$ 29	\$ 66	\$ 146
Total	\$ 87	\$ 95	\$ 103	\$ 228	\$ 512
Total federal funding for Highway and Active Travel (including both core and additional funding identified above)					
Total	\$ 649	\$ 690	\$ 754	\$ 1,698	\$ 3,791

FIGURE 6-4: REVENUES (IN MILLIONS) FOR THE CAPITAL REGION'S TRANSPORTATION SYSTEM, 2026-2050, CONTINUED

	2026 - 2030	2031 - 2035	2036 - 2040	2041 - 2050	Total (2026 - 2050)
NYS and municipal funds to be used as local match for federal highway and active travel funds					
New York State "Statewide Dedicated Funds"	\$ 120	\$ 131	\$ 143	\$ 323	\$ 717
Municipal Funds	\$ 42	\$ 42	\$ 45	\$ 101	\$ 231
Total	\$ 162	\$ 172	\$ 188	\$ 425	\$ 948
Federal (transit)					
Section 5307: Urbanized Area Formula Funding	\$ 120	\$ 130	\$ 142	\$ 321	\$ 713
Section 5339: Buses and Bus Facilities program	\$ 13	\$ 14	\$ 15	\$ 34	\$ 75
Section 5310: Enhanced Mobility of Seniors & Individuals with Disabilities	\$ 8	\$ 9	\$ 10	\$ 23	\$ 51
Total	\$ 141	\$ 153	\$ 167	\$ 378	\$ 839
State and Local (transit)					
NYS Operating Assistance	\$ 322	\$ 352	\$ 382	\$ 853	\$ 1,909
Mortgage Recording Tax	\$ 60	\$ 65	\$ 71	\$ 158	\$ 353
County Assistance	\$ 10	\$ 11	\$ 12	\$ 27	\$ 61
Fares, Parking, Advertising	\$ 141	\$ 154	\$ 167	\$ 373	\$ 834
Other Non-Federal Operating Revenues	\$ 2	\$ 2	\$ 3	\$ 6	\$ 13
Total	\$ 535	\$ 585	\$ 634	\$ 1,417	\$ 3,170
Total (Highway and Active Travel)	\$ 812	\$ 862	\$ 942	\$ 2,123	\$ 4,739
Total (Transit)	\$ 676	\$ 737	\$ 801	\$ 1,795	\$ 4,009
Grand Total	\$ 1,488	\$ 1,600	\$ 1,743	\$ 3,918	\$ 8,749

Note: Sums are subject to rounding

Expenditures

Figure 6-5 shows the identified needs for spending on the federal-aid transportation network in the Capital Region between the years 2026 and 2050.

The total amount of identified needs (\$7.4B) includes maintenance for all aspects of the federal-aid transportation system, including the enhancement projects identified in the *In Motion Plan's* fiscally constrained project list (see Section 8). This incorporates an estimated allocation of \$2.5M annually for safety enhancement projects that arise from the region's Capital Region Vision Zero Safety Action Plan adopted in September 2025. As noted earlier, this \$7.4B does not include the *In Motion Plan's* three Illustrative Projects (I-787, Troy-Menands Bridge, and I-890 Exit 4C.)

The Needs Assessment undertaken for Capital Region projects found that maintenance spending on roads and bridges could be adjusted up or down resulting in predictable asset condition outcomes depending on the amount of funding devoted exclusively to system maintenance. However, many transportation projects begin with a maintenance need but incorporate system enhancements to implement Complete Streets and the priorities of various community, regional, and state plans, making it difficult to easily categorize a project (see **Appendix G**). The values presented in **Figure 6-4** are the best available estimates, however the specific allocation for each area of need will be subject to future policy decisions and funding availability.

Expenditure of public funds on the region's transportation infrastructure and its operations is accompanied by significant private spending not often accounted for when assessing expenditures. The most recent estimate (2024) by the U.S. Department of Transportation indicates that owning and operating an automobile costs \$12,000/yr⁹ per vehicle. This results in a very rough estimate of some \$7B/yr in private household expenditure by residents of the Capital Region on the 500,000 cars registered across the four counties¹⁰. The total cost of owning and operating an automobile includes fuel, maintenance, tires, insurance, license, registration and taxes, depreciation, and finance. A portion of these expenditures contribute to funding maintenance and replacement of road facilities and vary by State and Local requirements. This private investment in the regional transportation is important to note as vehicles for the transit system, along with their operational costs, are generally publicly funded.

⁹ <https://www.bts.gov/content/average-cost-owning-and-operating-automobilea-assuming-15000-vehicle-miles-year>

¹⁰ https://data.ny.gov/Transportation/Vehicle-Snowmobile-and-Boat-Registrations/w4pv-hbkt/about_data

FIGURE 6-5: EXPENDITURES (IN MILLIONS) FOR THE CAPITAL REGION'S TRANSPORTATION SYSTEM, 2026-2050

	2026 - 2030	2031 - 2035	2036 - 2040	2041 - 2050	Total (2026 - 2050)
Highway					
Pavement	\$ 61	\$ 67	\$ 72	\$ 162	\$ 362
Bridges	\$ 232	\$ 254	\$ 276	\$ 617	\$ 1,378
Culverts	\$ 24	\$ 26	\$ 28	\$ 63	\$ 140
Regionally Significant Maintenance Projects	\$ 63	\$ 69	\$ 75	\$ 169	\$ 377
Safety	\$ 14	\$ 15	\$ 16	\$ 36	\$ 80
Total	\$ 393	\$ 430	\$ 467	\$ 1,046	\$ 2,337
Transit					
Transit Operations	\$ 652	\$ 714	\$ 777	\$ 1,742	\$ 3,884
New/Enhanced Transit Facilities ¹¹	\$ 52	\$ 57	\$ 62	\$ 138	\$ 309
Fleet replenishment	\$ 108	\$ 119	\$ 129	\$ 289	\$ 645
Fleet Replenishment (added costs to electrify)	\$ 103	\$ 113	\$ 123	\$ 275	\$ 614
Total (excluding electrification)	\$ 812	\$ 890	\$ 967	\$ 2,168	\$ 4,837
Active Travel					
Sidewalk Replacement	\$ 4	\$ 5	\$ 5	\$ 11	\$ 25
Trail Surface Replacement	\$ 5	\$ 6	\$ 6	\$ 14	\$ 32
Trails Expansion	\$ 35	\$ 39	\$ 42	\$ 94	\$ 210
Total	\$ 45	\$ 49	\$ 53	\$ 119	\$ 267
Grand Total	\$ 1,250	\$ 1,369	\$ 1,488	\$ 3,334	\$ 7,441

WHAT OTHER TRANSPORTATION INVESTMENT WILL OCCUR IN THE CAPITAL REGION?

The Transportation Council is primarily responsible for the allocation of federal transportation funding in the Capital Region. However, there are other transportation projects within the Capital Region which are not part of this Financial Plan that are funded by the Transportation Council's state and local government partners. **Figure 6-6** shows anticipated transportation spending by state and local government partners that are not on the federal-aid highway system and include investment in local streets.

Through 2050, this totals approximately \$2.2B from New York State sources, and \$3.6B from the region's municipalities.

This expenditure has been calculated by Transportation Council staff, which added up the annual budgets for transportation in the region's municipalities. This may, in some cases, include snow removal and other general operational activities that go beyond transportation system maintenance and improvements.

FIGURE 6-6: OTHER SPENDING (IN MILLIONS) FOR THE CAPITAL REGION'S TRANSPORTATION SYSTEM BY STATE AND LOCAL GOVERNMENT PARTNERS, 2026-2050

	2026 - 2030	2031 - 2035	2036 - 2040	2041 - 2050	Total (2026 - 2050)
New York State					
CHIPS	\$ 137	\$ 182	\$ 198	\$ 442	\$ 989
Extreme Winter Recovery	\$ 29	\$ 31	\$ 34	\$ 76	\$ 170
PAVE-NY	\$ 41	\$ 45	\$ 49	\$ 110	\$ 246
Pave our Potholes (POP)	\$ 28	\$ 30	\$ 33	\$ 73	\$ 163
State Touring Routes (STR)	\$ 105	\$ 114	\$ 124	\$ 277	\$ 620
Total (New York State Funding)	\$ 369	\$ 404	\$ 438	\$ 978	\$ 2,189
Funding from Capital Region municipalities, beyond funds used to match federal funds.	\$ 715	\$ 715	\$ 712	\$ 1,413	\$ 3,555
Grand Total	\$ 1,084	\$ 1,119	\$ 1,150	\$ 2,391	\$ 5,744

HOW WILL INVESTMENT BE ALLOCATED: LIST OF FISCALLY-CONSTRAINED AND ILLUSTRATIVE PROJECTS

Between 2026 and 2050, the Transportation Council will routinely solicit candidate projects from stakeholders in the Capital Region to consider for placement on the region's Transportation Improvement Program (TIP). Being placed on the TIP is a major step forward for any project, because it means that federal funding has been assigned, and the project is programmed for implementation during one or more specified year of the TIP's 5-year period.

The approved TIP covers federal fiscal years 2025 to 2030, beginning October 1, 2025, and was developed collaboratively following the Transportation Council's project-selection processes.

In Motion: The Plan to 2050 incorporates all projects in the 2026-2030 TIP. Additionally, a set of regionally significant projects are included in the project list, found in **Figure 6-7**. Projects include large bridge maintenance/preservation projects that have been identified by NYSDOT as major needs over the coming decade, along with projects that will enhance the roadways, transit system, and trail network in the Capital Region. Major projects have a minimum cost estimate of \$25M with the exception of trail projects which have a minimum cost of \$10M.

The bottom of **Figure 6-7** lists three large Illustrative Projects (Reimagining Interstate 787, Route 378 Over the Hudson (Troy-Menands Bridge), and I-890 Exit 4C - Schenectady Mobility and Quality of Life Improvements, which indicate regionally important needs for which funding has yet to be identified.

FIGURE 6-7: PROJECT LIST

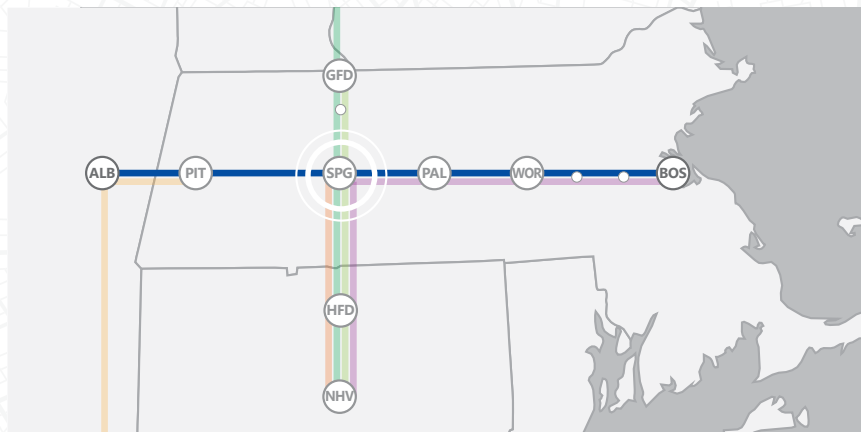
Project Name	Sponsor	Cost Estimate	Work Type	Category
All projects on 2025-2030 Transportation Improvement Program	Various	\$889M	Various	Fiscally-constrained
NY 67 over Hudson River, BIN 4415150	NYSDOT	\$70M	Maintenance/preservation	Fiscally-constrained
US 9W/I-787 Bridge	NYSDOT	\$65M	Maintenance/preservation	Fiscally-constrained
US 4 over Hudson River, Bridge (City of Troy)	NYSDOT	\$92M	Maintenance/preservation	Fiscally-constrained
Stillwater Bridge Road (NY 915C) Bridge, BINs 1029200, 4029210	NYSDOT	\$40M	Maintenance/preservation	Fiscally-constrained
"West Facility" in Schenectady for Bus Maintenance	CDTA	\$145M	System enhancement	Fiscally-constrained
Albany Intermodal Center	TBD	\$100M	System enhancement	Fiscally-constrained
Implementation of Regional Trails Plan	Various	\$154M	System enhancement	Fiscally-constrained
Zim Smith Trail	Saratoga County	\$13M	System enhancement	Fiscally-constrained
Reimagining I-787	NYSDOT	\$3B-4B	System enhancement	Illustrative
Route 378 Over the Hudson (Troy-Menands Bridge), BIN 1062850	NYSDOT	\$300M	Maintenance/preservation	Illustrative
I-890 Exit 4C Mobility and Quality of Life Improvements, Schenectady	NYSDOT	TBD	System enhancement	Illustrative

CASE STUDY

New Opportunities for Passenger Rail Between the Capital Region and Boston



Building on an initial \$500K Federal Railroad Administration (FRA) award in 2023, the Massachusetts Department of Transportation was awarded \$3.6M by the FRA in 2025 for planning the “Boston and Albany Corridor” through the Corridor Identification and Development Program. The intent is to modernize and improve the rail corridor between Albany (Rensselaer/Joe Bruno Rail Station), Springfield, Worcester, and Boston through which Amtrak currently operates one-train-per-day rail service. The planning process will include the preparation of a service development plan which outlines service frequencies, infrastructure improvements, and an implementation schedule. The Transportation Council will coordinate with partners within NYSDOT and in Massachusetts to leverage this bi-state opportunity to improve connectivity between the Capital Region and key destinations in the northeast.



DEMONSTRATING FISCAL CONSTRAINT

In summary, the Transportation Council's projections for the period 2026-2050 include \$7.4B in needs and \$8.7B in anticipated available funding. The projection of resources exceeding identified needs by \$1.3B demonstrates that the *In Motion Plan* is fiscally constrained. This amount (\$1.3B) is anticipated to be available to the Transportation Council's members to address regional priorities beyond maintenance/operations and the projects in the fiscally constrained project list. It also could provide contingency funding if construction cost inflation in future years leads to higher than anticipated expenditures on projects. However, the \$1.3B is not guaranteed and will not be available all at once.

Every three years when a new TIP is prepared, the Transportation Council will review the region's needs and available resources, including the requirements for using specific funding sources. Funding available for projects beyond preservation will be allocated by the Transportation Council's Policy Board to candidate enhancement projects throughout the region in the approximate ratio shown in **Figure 2**.

It is essential that the financial element of each new TIP is consistent with the *In Motion Plan's* Financial Plan, particularly with respect to larger projects that have the scale to potentially affect the overall regional distribution of resources. When projects listed in the *In Motion Plan* are added to future TIPs, the Transportation Council will reconcile the updated project cost estimates with the preliminary cost estimates by amending

the *In Motion Plan*. The Transportation Council may also adjust TIP project schedules or limit the addition of new projects to the TIP to ensure financial resources are available to complete existing commitments. Finally, if needed, the Transportation Council may opt to amend the Financial Plan within *In Motion* as new information becomes available.

The needs and resources presented in the *In Motion Plan* generally relate to the federal-aid highway system. An additional \$5.7B in spending is anticipated by NYSDOT, municipalities, and others on non-federal-aid portions of the transportation network.

The Transportation Council is committed to helping secure discretionary federal funding that goes beyond the standard formula funding, particularly to implement larger projects and those on the Illustrative Project List (Reimagining Interstate 787, NY 378 Over the Hudson (Troy-Menands Bridge), and I-890 Exit 4C - Schenectady Mobility and Quality of Life Improvements). Due to their speculative nature, future awards from discretionary federal transportation funding programs are not shown in this Financial Plan, in keeping with federal guidance. The Transportation Council anticipates the region will receive a representative allocation of the nation's discretionary funds over the next 25 years and will amend the *In Motion Plan* if and when such funding is awarded.

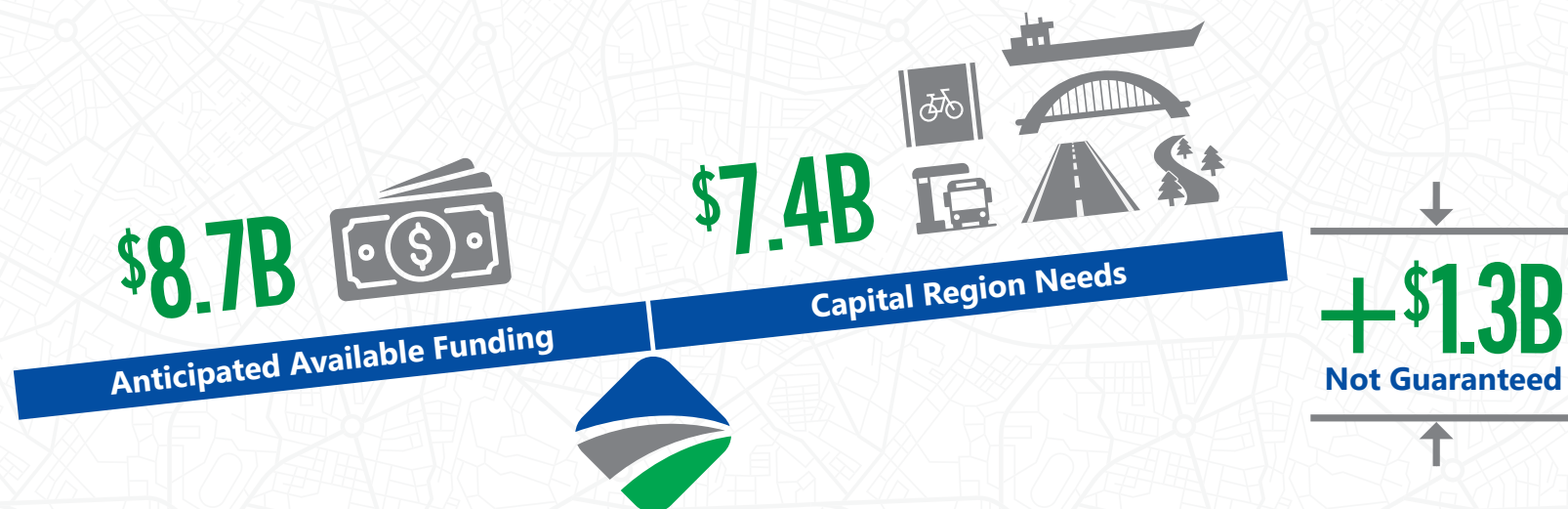
Alternative Funding for the Transportation System

While the gas tax has served as a primary source of transportation funding for many decades, it has declined over time as automobiles and trucks become more fuel-efficient and alternative fuel vehicles achieve increased market share. This trend may continue in future years. Similarly, the federal gas tax of 18.4 cents per gallon is not indexed to inflation and has remained at the same level since the early 1990s despite general price increases during this time. The likely need for new transportation funding sources is a recognized issue that is being monitored nationally as well as across New York State.

The Transportation Council will continue to stay abreast of developments in this area, providing the analytics necessary should policymakers choose to consider alternative funding sources in the Capital Region, such as mileage-based fees, local option sales taxes, congestion pricing, or other alternative funding options.

How will the Financial Plan's Progress be Monitored

This Financial Plan connects the region's resources (funding) with the anticipated needs to demonstrate that the transportation projects contained in the *In Motion Plan* are achievable within reasonably anticipated resources. In coming years, the Transportation Council will work to develop new TIPs that are consistent with the *In Motion Plan*. The Transportation Council will also monitor the performance of the transportation system over time to ensure that investments are aligned with progress towards performance objectives.





CHAPTER 7

PERFORMANCE MANAGEMENT



THE IMPORTANCE OF PERFORMANCE MANAGEMENT

Performance management is not just about crunching numbers and writing reports. A robust performance management program enables us to define success for our transportation system, inform decision-making, and prioritize investments. By defining key performance indicators aligned with our goals we can track trends over time and enable a data-driven approach to transportation decision-making. We can also use performance data to articulate the return on transportation investments and identify emerging needs. In addition to addressing long-term future opportunities, performance management is also crucial for maintaining the integrity of our transportation system by ensuring adequate resources are available to maintain a state of good repair.



WHAT DO WE MEASURE?

Federally Mandated Performance Metrics

State Departments of Transportation (DOTs) and Metropolitan Planning Organizations (MPOs), including the Transportation Council, are required to implement performance-based planning and programming by tracking performance measures,

setting data-driven targets, and selecting projects to achieve these targets. These metrics and the Capital Region's general performance is summarized below. A detailed system performance report can be found in **Appendix H**.

Metrics	Description	Performance
 Highway Safety	These performance measures present five year rolling averages of the number of traffic fatality and serious injury metrics on Capital Region roadways.	Despite periodic decreases – likely the result of the pandemic – the Capital Region generally experienced an increase in both the number and rate of fatalities and serious injuries between 2019 and 2023.
 Pavement & Bridge Conditions	These performance measures express the quality of the bridge and roadway conditions on the Capital Region roadways within the National Highway System (NHS).	Between 2018 and 2023 the percentage of pavement within the interstate roadway system in good condition generally decreased while the percent in poor condition remains low. The percentage of bridge deck area in good condition decreased while the percentage in poor condition increased slightly.
 Transit Safety	These performance measures express the number of fatalities and injuries by transit mode and vehicle mile as well as mechanical failures by mode.	CDTA updated its transit safety targets in late 2024 including zero fatalities across all modes as well as metrics for injuries, safety events and system reliability. Transportation Council has reviewed and supports these goals.
 Transit Asset Management	These performance measures express the condition and quality of public transit rolling stock, equipment, infrastructure and facilities.	82.7% of CDTA's fleet are within the standard useful vehicle life for each type of vehicle, and 17.3% are past the end of their useful life.
 System Performance	These performance measures track the % of mileage of the roadway systems that are considered reliable.	The percent of person-miles on the Interstate system that are reliable decreased slightly between 2018 and 2023. For the non-Interstate NHS, performance increased notably from 2019 to 2023.
 Freight Performance	These performance indicators articulate the quality of goods movement on the Capital Region roadway network through the Truck Travel Time Reliability Index (TTTR).	Truck Travel Time Reliability improved slightly from 2018 to 2023.

Measuring Regional Goals: Key Performance Indicators

Above and beyond these federal requirements, the Transportation Council is committed to providing performance management resources that help communities throughout the region plan for the future. Value is deployed through key performance indicators aligned with the plan goals and shaped by the unique needs of communities throughout the Capital Region. The tables below

provide a performance management framework for each goal. Each goal has a number of specific key performance indicators (KPIs) to provide a variety of perspectives for each topic, as well as more holistic inputs for local and regional planning efforts.

 Safety Crash data is the most frequently used and easily accessible transportation system safety data. In addition to overall crashes, the Transportation Council tracks fatalities and injuries, particularly as it relates to vulnerable roadway users (including bicyclists and pedestrians) as well as investments to mitigate unsafe roadway conditions. Beyond crashes, the Transportation Council seeks to assess the security of the system.		
Key Performance Indicator	Description	Data Systems & Methods
HSIP Funding Assigned to Safety Projects	How much Highway Safety Improvement Program (HSIP) funding was assigned to safety-related projects in the region.	Transportation Improvement Program Spending
Number of Traffic Crashes by County	How many crashes occur across all modes; This analysis can be broken down by mode to provide a more complete picture of traffic safety for different roadway users, particularly bicyclists and pedestrians.	ITSMR TSSR for total crashes and tickets by county: https://www.itsmr.org/traffic-safety-statistical-repository/
Number of Tickets Issued by County		



The Transportation Council aims to ensure the transportation system is maintained, operated, and coordinated to support reliable travel throughout the region.

Key Performance Indicator	Description	Data Systems & Methods
NHPP & STBG Program Funds Obligated to Roadway Maintenance Projects	How much funding is assigned to maintenance activities such as roadway resurfacing projects.	Transportation Improvement Program Spending
Sidewalk, Paved Multi-Use Trail, & Bike Facility Condition Data	Develop a condition assessment methodology for active transportation assets.	The Transportation Council will work with trail jurisdictions to improve existing data to ensure a consistent evaluation scale for active transportation infrastructure.
Amount of Federal Funds Obligated to Technology Projects	How much federal funding is obligated to new transportation technology such as speed cameras or other devices to manage or track transportation patterns.	Transportation Improvement Program Spending
Number of Traffic Signals with Video Detection and/or Other Technologies	How many signals use technologies such as vehicle detection, communications, coordinated timing, V2X, or ATSPMs (Automated Traffic Signal Performance Measures).	NYSDOT Region 1, CDTA, and other Signal Owners
Mileage of Sidewalk Data Available to the Transportation Council	How can the Transportation Council expand its existing database of sidewalk data to include new technologies.	Municipal Databases; NYSDOT ADA Sidewalk Data



Access

The Transportation Council seeks to maximize multimodal options for everyday transportation across trip purposes and prioritize accessibility improvements at key destinations for both people and goods.

Key Performance Indicator	Description	Data Systems & Methods
Multimodal Mode Share Distribution	What is the proportion of people using transit, walking or biking to work versus single occupancy vehicle trips.	CDTA Ridership And Third-Party Providers (i.e. Replica, Streetlight, etc.)
Number of CDPHP Cycle! Trips	How many trips were supported by the regional bikeshare system.	CDPHP Cycle! Ridership Data
Number of Key Destinations within a 0.5 Mile Walk of a trail, sidewalk, or transit line	How many schools, employers, parks, and community centers are within walking distance of pedestrian infrastructure.	Spatial Analysis by Transportation Council
Number of Special Transit Available by Request (STAR) Trips and Eligible Customers	How many individuals are enrolled in CDTA's STAR program, and how many trips were taken within a given timeframe.	CDTA Ridership Data
Number of Miles of Sidewalks Considered Accessible or Fully Accessible	How many sidewalks are in compliance with the Americans with Disabilities Act.	Transportation Council Database
Number of Miles of Active Transportation Infrastructure Built	How many miles of new sidewalk, bike lanes and trails were constructed throughout the region.	Transportation Council Sidewalk, Paved Multi-Use Trails, And On-Road Bike Facilities Databases
Number of Alternative Fuel Chargers/Infrastructure Installed	How many alternative fuel charging stations were installed throughout the region.	State Charger Tax Credit, NYSEDA Charge Ready Program, Alternative Fuel Data Center
Number of new Bus Shelters & Accessible Stops. Overall % of Total Stops/Stations Accessible	How many bus stops are located on an accessible sidewalk? How many new shelters with seating and a weather canopy were installed each year.	CDTA Asset Management Database



Livability

The Transportation Council will help prioritize strategic investments in the transportation system to support economic development and population growth throughout the region. This will include a particular focus on housing development in existing and emerging job centers as well as downtown commercial districts and areas with limited transportation options.

Key Performance Indicator	Description	Data Systems & Methods
TIP Projects in Compact Development and/or Transit-Oriented Areas	How many TIP projects are programmed in higher density communities and areas with transit-oriented development.	Spatial Analysis by Transportation Council
Number of Communities with Complete Street Policies	How many communities throughout the region have passed complete street policies and/or resolutions.	Transportation Council Complete Street Database
Annual Average Daily Freight Traffic on Interstate Routes	How many trucks are operating on the region's freight routes.	NYS Freight Atlas ¹
Number of New Housing/ Apartment Units Constructed or Approved within 0.5 miles of Transit or Active Transportation Infrastructure	How much new housing stock is becoming available in the region.	Permit Data as Collected by CDRPC
Number of Transportation Projects on Schedule	How many projects in the Transportation Council's Transportation improvement program are proceeding as scheduled.	Transportation Improvement Program Monitoring



Resilience

The Transportation Council seeks to ensure that transportation agencies and communities are prepared for and positioned to protect transportation infrastructure from changing conditions and natural hazards; In addition, the Transportation Council will encourage communities to responsibly adapt regional transportation infrastructure for the use of future generations.

Key Performance Indicator	Description	Data Systems & Methods
Money Obligated for Resilience Projects	How much federal, state and local money is invested in projects to bolster transportation resiliency.	Transportation Improvement Program Spending
Number of Weather-Related Transportation Closures	How many [rain, snow, hail] storm events have resulted in roadway closures and/or transit shutdowns.	NYSDOT Transportation Systems Management and Operations Performance Dashboards; Transportation Council Operations Data
Number of Reported Incidents by Type by Month	How many roadway disruptions (from work zones, crashes and/or congestion) occur each month.	NYSDOT Transportation Systems Management and Operations Performance Dashboards
Cost of Delays by Month	How much do transportation delays cost the region each month.	NYSDOT Transportation Systems Management and Operations Performance Dashboards
Money Obligated for Superfund Remediation	How much money has the U.S. EPA spent remediating superfund sites in the region.	EPA Superfund Trust Fund Obligations
Money Obligated through Promoting Resilient Operations for Transformative, Efficient, & Cost-Saving Transportation (PROTECT) Grant Program	How much federal funding is being obligated to projects in the region.	PROTECT Program Grant Awards

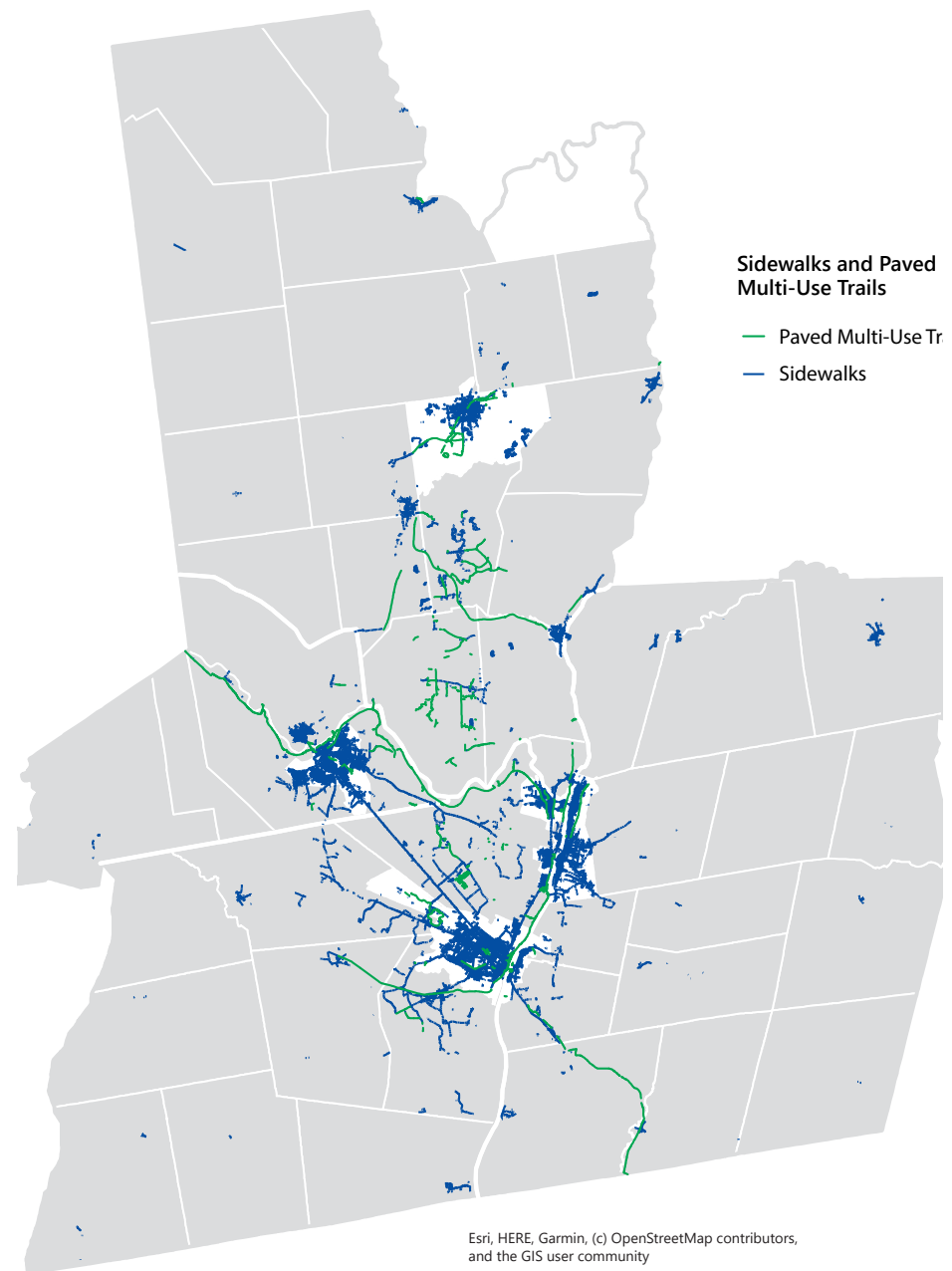
The Transportation Council will work to expand the federal performance tracking process to include these regional metrics, drawing on existing data systems as identified above and/or prioritizing investments in new technologies to enable measurement for new metrics. As part of this process, the Transportation Council will take several specific actions:

- Develop a periodic performance scorecard to track federal and regional In Motion: The Plan to 2050 metrics.
- Integrate scorecard metrics into the Unified Planning Work Program (UPWP) as part of the planning project selection process.
- Encourage New York State to expand the 511 database to enable MPOs and other agencies to analyze historical records of previous travel reports through the system.

Active Transportation Asset Management

The Transportation Council maintains a series of robust regional databases highlighting the locations of trails, sidewalks, and bicycle facilities throughout the region. The Transportation Council will continue to work with jurisdictions throughout the region to update and expand these databases as tools to maintain existing infrastructure and forecast investments to maintain a state of good repair.

FIGURE 7-1: PAVED MULTI USE TRAILS



NEW DATA TO INFORM OUR TRANSPORTATION SYSTEM

In addition to tracking and interpreting existing transportation patterns, the Transportation Council has taken a proactive approach to performance management by understanding the underlying factors that impact transportation choices throughout the region. This includes the development of new datasets while also taking advantage of parallel initiatives that provide new insights into travel behavior.

Driver Mode Shift Survey

In 2024, the Transportation Council launched a “driver mode shift survey” to support our demand management and planning programs with direct, consumer insights on travel choices. With more than 70% of the region’s residents driving a single occupancy vehicle, the purpose of this effort was to understand what factors impact existing driver behavior as well as factors that can influence drivers to choose other modes such as transit, walking or biking. The survey included 800 respondents, more than 50% of which reported driving 5 to 7 days per week for a wide variety of purposes including commuting, shopping, recreation, daycare, worship, and health care. As a result of this survey, we learned a lot about barriers and potential opportunities to expand transportation choices. Specifically:

- The majority of survey respondents are open to mode shift either because they are attracted to transit or active modes, or because they are frustrated with challenges associated with driving.
- Most survey respondents are either unaware or do not have access to commuter benefits through their school/employer throughout the region.

- Twelve percent of respondents were identified as “Active Aspirers” and represent the most promising segment of Capital Region residents for mode shift and transportation demand management programs.

NY Cycling Census

The Transportation Council has also taken advantage of other emerging datasets. The 2023 New York Cycling Census (NYCC) was an unprecedented statewide effort to collect consumer preference insights from cyclists in every county in New York. With more than 13,700 responses, the NYCC remains the largest statewide survey of cyclists in the U.S., providing a snapshot of cycling preferences, barriers and opportunities in Albany, Rensselaer, Schenectady, and Saratoga Counties.



Other Tools

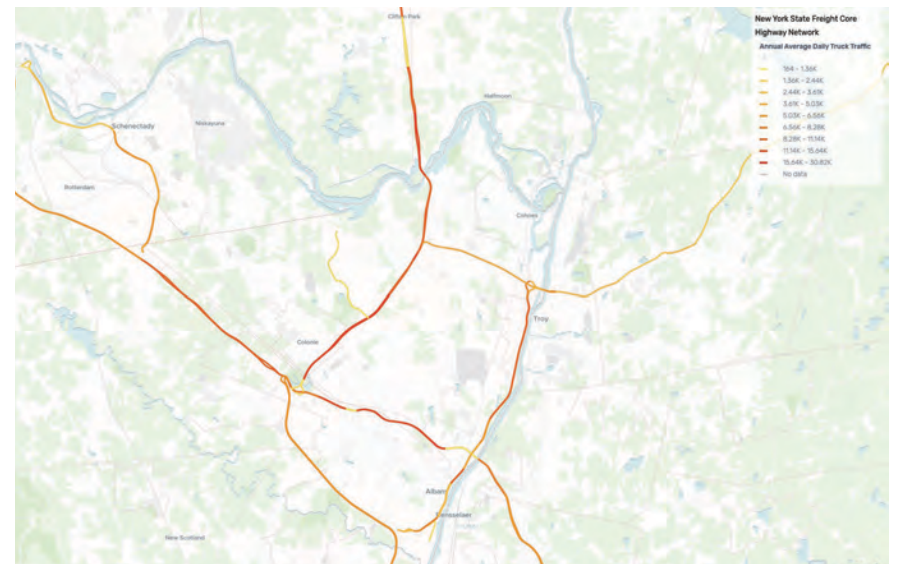
In 2024, CDTA launched TransDash, an online 3rd party performance monitoring dashboard. This tool quantifies and displays the agency's past and current performance as it relates to a variety of metrics that capture value to the community and taxpayers based on customer survey data. As of the third quarter of 2024, CDTA was delivering more than \$184 million in economic value to the region and scored 94%² in community value. This new tool not only provides benchmarks for our regional transit system but compares CDTA performance with other transit agencies across the country. The latest data indicates that CDTA ranks above the national average in the areas of community relevance, job connectivity, and service-sector jobs accessible from downtown origins. In addition to this dashboard, CDTA conducts annual customer satisfaction surveys which can provide insights into transit customer behavior.

The Capital District Regional Planning Commission (CDRPC) maintains an extensive data program which can add significant value to the region's long-range transportation planning process. Beyond transportation-focused data, CDRPC compiles, analyzes and visualizes a wide array of datapoints illustrating population shifts, economic trends, housing development, and infrastructure needs. Drawing from reliable sources such as the NYS Department of Labor, Bureau of Economic Analysis, the NYS Comptroller, The Council for Community and Economic Research, and others, CDRPC's data provides multifaceted insights into the region's changing landscape and enables the Transportation Council to plan for the future.

The NYSDOT established the Transportation Systems Management and Operations Performance Dashboards which provide a monthly snapshot of **incidents** – road hazards, crashes, and emergency operations – **work zones** – including the top 20 work zones by delay cost based on durations and vehicle delay – and **congestion**. NYSDOT will also be adding a new reliability dashboard. These datasets can expand the Transportation Council's understanding of regional safety and system performance, providing a key input into many of the In Motion performance measures listed above.

As part of NYSDOT's Freight Plan, the agency created the NYS Freight Atlas. This web-based tool contains freight-related transportation facilities and volumes throughout the state. This data can help the Transportation Council better understand the nature of truck transportation in the Capital Region and plan to accommodate vital goods movement.

FIGURE 7-2: THE CAPITAL REGION AS DEPICTED IN THE NEW YORK FREIGHT ATLAS.



ADDRESSING GAPS IN EXISTING DATA

The Transportation Council has worked hard to develop a robust framework for performance management and data systems to track trends, facilitate decision-making, and prioritize needs in the region. This includes asset management data on active transportation infrastructure as well as information pertaining to transit system performance and congestion. The Transportation Council is committed to expanding and improving these existing performance management systems. Specifically:

- **The Transportation Council will work to expand on existing datasets.** Currently, sidewalk condition data is only available for six municipalities in Albany County including Albany (City), Altamont, Bethlehem, Cohoes, Guilderland, and Watervliet. The Transportation Council will work with municipalities to obtain additional data and incentivize inventories and other, less resourced communities. In addition to sidewalks, the Transportation Council will work to expand the regional trail dataset to include installation dates. This specific datapoint will enable the creation of a more accurate forecast for investments related to trail maintenance throughout the region.
- **The Transportation Council will encourage consistent data collection methodologies and metrics across the region.** More consistent and expansive evaluation metrics for sidewalks, trails, and bike facility condition is essential to accurately forecast maintenance needs. Sidewalk condition data, for example, is assessed using a variety of different rating systems and scales from one jurisdiction to the next.

The Transportation Council will produce recommended condition assessment guidelines that include frequency, methodology, and a consistent scale. This will help facilitate accurate and timely data collection for a more accurate snapshot of the region's active transportation network.



EXPLORING NEW DATA FRAMEWORKS AND SYSTEMS

Emerging transportation trends necessitate flexibility and an adaptive approach to performance management. Growing interest in active transportation and micromobility necessitates the development of new data sets and tracking systems to enable more accurate benchmarking and decision-making. In tandem, new third-party datasets – specifically the National Performance Management Research Data Set (NPMRDS), and Replica present opportunities for expanded insights into travel trends throughout the region.

Expanding Active Transportation Data Collection

Active transportation is a growing part of our regional transportation system, yet data on bicycle and pedestrian mobility is limited. Despite a growing database of active transportation facilities and anecdotal insights, little quantitative data exists to illustrate bicycle and pedestrian behavior. The Transportation Council will work to enable data-driven decision making for active transportation throughout the region with new programs and systems which may include:

- **A bicycle and pedestrian counting program** for regional trails and key active transportation facilities. This would include a combination of fixed counters on high-volume trails, and seasonal counts on key arteries such as bridges and bike facilities.
- **Exploring new economic development metrics** to illustrate the value of active transportation facilities throughout the region. This may include an analysis of property values along trail corridors and/or sales tax receipts for businesses abutting “complete streets.”

- **Using spatial analysis to establish connectivity metrics** that both benchmark and encourage access to key destinations throughout the region. This could include measures such as schools, parks, libraries, and transit stops within a 0.5 mile or a 10 minute walk/ride from a trail.

Formalizing and Expanding Micromobility Data

Micromobility is a rapidly evolving mode in the Capital Region. In Motion: The Plan to 2050 is only the second long range transportation plan to include data on micromobility – in the form of CDPHP Cycle! ridership trends and system expansion – but provides the first long-range (5+ years) glance at the system’s growth. The 2017 launch of CDPHP Cycle! remains a watershed moment for transportation throughout the Capital Region. Since then, the system has continued to grow – in terms of both ridership and system size – and introduced new innovations like ebikes to increase service offerings and access. Future iterations of this plan will continue to include and expand upon this data by diving deeper into trip origins and destinations throughout the system.

In tandem with bike share, ebike ridership has grown steadily since their statewide legalization in 2020, enabling more and more Capital Region residents to take advantage of active transportation. This expansion in ebike ridership has spurred both new opportunity, and growing concern from municipal partners. The Transportation Council will work with stakeholders across the region to develop methods and systems to better understand this growing mode. This may include working with local bike shops to understand sales volumes and tracking local ebike regulations.

Applications for Data Aggregation and Analytical Tools

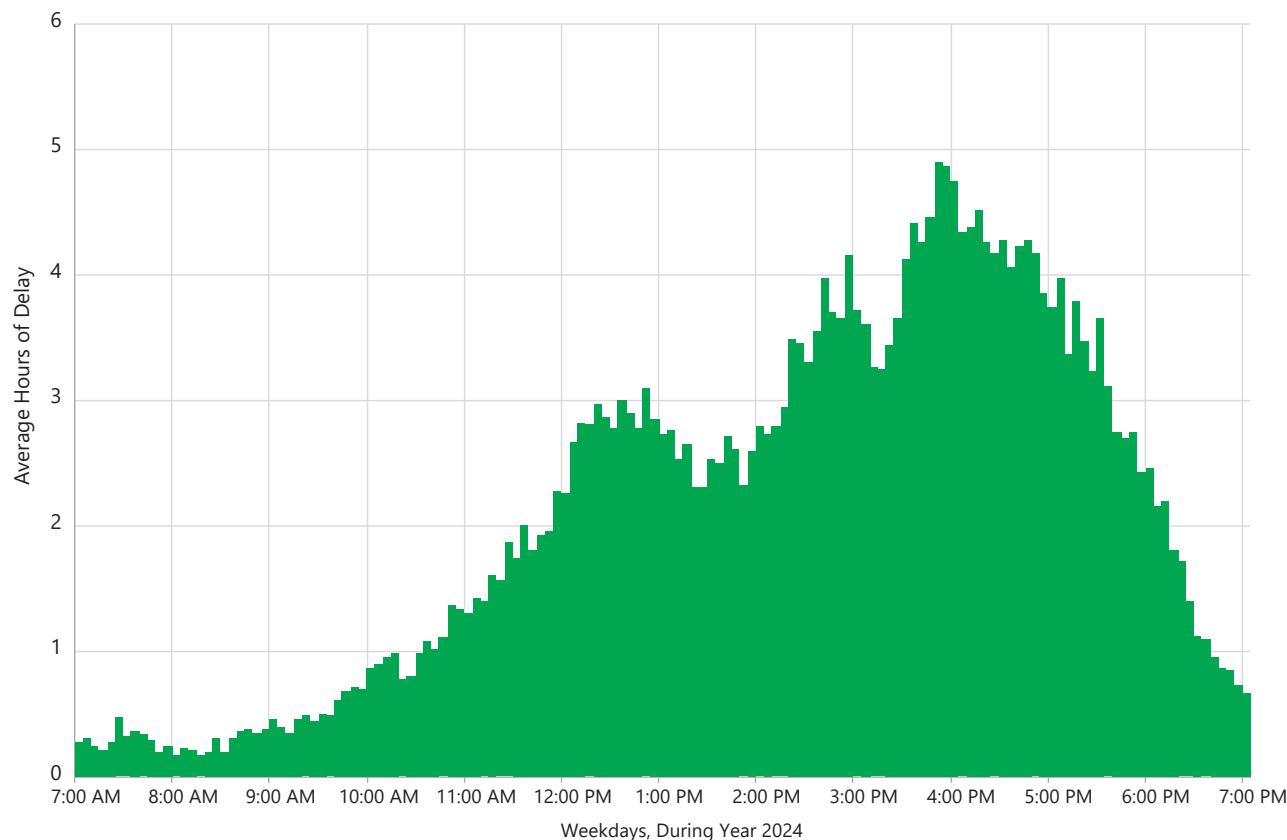
In the absence of locally sourced performance data, data aggregation tools such as the National Performance Management Research Data Set (NPMRDS) and other third-party companies represent tools for insight into regional travel patterns. While this data has its limitations – such as scope and data quality across roadway types and traffic volumes – it can add a new layer of detail when investigating transportation patterns.

The Transportation Council has already taken advantage of these data sources. In the Hoosick Road Corridor Study (2024), Transportation Council staff used NPMRDS and Replica data to examine travel patterns on Route 7 in the Town of Brunswick (see **Figure 7-3**). NPMRDS data was used to analyze vehicle travel times by time of day and by day of week to determine peak periods for data collection and modeling. Replica³, another third party data source, was used to estimate the number of trips passing through the study area, trip purposes for vehicles stopping within the study area, and where travelers in the study area were originally coming from.

³ Replica is a web-based suite of transportation modeling tools that provides estimated volumes of trips by all modes, including personal vehicles, walking, biking, transit, and freight, on all links in the transportation network. Replica also provides modeled estimates of the demographic characteristics of trip takers. Transportation Council staff have access to Replica via a statewide contract.



FIGURE 7-3: NPMRDS CHART SHOWING VEHICLE DELAY BY TIME OF DAY IN THE HOOSICK ROAD CORRIDOR.



What is NPMRDS?

The National Performance Management Research Data Set (NPMRDS) uses anonymized GPS probe data from a wide array of commercial vehicle fleets, connected cars and mobile apps to provide travel time and speed data. NPMRDS is published monthly by USDOT specifically to aid State DOTs and MPOs with performance reporting.

The Transportation Council will continue to explore opportunities for these tools to fill in gaps in our current performance management system, and – paired with other regional data sets – help make informed transportation investments and policy decisions.



Resilience

Livability

Access

Mobility Safety

IN MOTiON

THE PLAN TO 2050



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