



SCHOOL OF
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MDOT MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION



**EXPLORING INNOVATIVE
FUNDING OPTIONS FOR THE**



**GROWTH AND
TRANSFORMATION PLAN**

GRADUATE
CAPSTONE REPORT
BY: DANIEL MEARS

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ABSTRACT

This report explores innovative funding strategies to support the Maryland Transit Administration's (MTA) Maryland Area Regional Commuter (MARC) Growth and Transformation Plan, which outlines major investments to expand capacity, improve reliability, and strengthen regional rail connections.

With traditional transportation revenues under strain, new and sustainable funding approaches are needed. The study analyzes the MARC Plan's financial requirements, review existing research on transportation finance, and conduct case studies of Connecticut, Massachusetts, Virginia, and Utah, states that have developed stable and innovative rail transit systems. Through document review, data analysis, and expert interviews, the project identifies practical funding mechanisms that can be adapted for Maryland. These findings inform a set of recommendations to help MTA advance the MARC Growth and Transformation Plan and build a more sustainable financial framework for Maryland's commuter rail system.



Maryland Transit Administration, 2017

LITERATURE REVIEW

OVERVIEW OF THE MARC GROWTH AND TRANSFORMATION PLAN

The MARC Growth and Transformation Plan was published by the Maryland Transit Administration (MTA) in June 2025. The document outlines an ambitious 25-year vision to significantly expand and improve the Maryland Area Regional Commuter (MARC) rail system. This comprehensive plan aims to shift MARC from a primarily commuter-focused service to a regional rail network offering frequent, all-day, and all-week service. This service expansion includes adding weekend operations across its three existing lines (Penn, Camden, and Brunswick) and providing service into new areas, including Delaware and Northern Virginia (Maryland Transit Administration, 2025). The Plan is divided into three incremental phases: a 5-Year Phase (FY2026-2030), a 15-Year Phase (FY2031-2040), and an Unconstrained Phase (FY2041 and Beyond). Each phase builds upon the previous one to deliver service improvements and the necessary infrastructure (Maryland Transit Administration, 2025).

5-Year Phase:
FY2026-2030

15-Year Phase:
FY2031-2040

Unconstrained Phase:
FY2041 and Beyond

The Plan's goals include offering competitive travel times, attracting a variety of trip types, providing a seamless network, balancing service levels with market demand, and promoting economic growth and Transit-Oriented Development (Maryland Transit Administration, 2025). When fully implemented, the MARC Growth and Transformation Plan is expected to generate significant economic benefits for Maryland. There is an estimated one-time economic output of \$7.3 billion from capital improvements and an ongoing annual economic benefit of \$3.8 billion from continuous operations investments. The Plan also predicts a 19% reduction in MARC trip time between Washington, D.C., and Baltimore and a 175% increase in weekday daily station stops across all lines. Projected service extensions that improve access to MARC by 78% on the Penn Line and 52% on the Brunswick Line are also included in the Plan (Maryland Transit Administration, 2025).



Maryland Transit Administration, 2025

A core aspect of the MARC Growth and Transformation Plan is the substantial capital investment required. The total estimated capital cost for all three phases is projected at \$13.7 billion in Year of Expenditure dollars. This total includes baseline costs of \$7.1 billion through 2050, which are necessary to continue existing MARC operations (Maryland Transit Administration, 2025). These costs include state-of-good-repair projects, recapitalization of ongoing lease-track payments to Amtrak and CSX Transportation as host railroads, and the MTA's share of the other Northeast Corridor Commission's Connect 2037 projects. Growth and transformation costs total \$6.58 billion for service expansion, broken down by phase, with a 5-year Phase costing ~\$409.07 million, a 15-year Phase costing ~\$1.765 billion, and an Unconstrained Phase costing ~\$4.41 billion. The Plan explicitly states that these ambitious service expansions are "beyond today's existing resources" and "financially unconstrained," representing a vision that exceeds MTA's current revenue and funding streams (Maryland Transit Administration, 2025).

Current federal and state funding projections identify an approximate \$2.75 billion gap for MARC baseline operations between FY2026 and FY2050 (Federal Transit Administration, 2024; Maryland Transit Administration, 2025). Expanding MARC service under the Growth and Transformation Plan would require substantially greater operating costs on top of the baseline gap as service levels increase across the phases. Systemwide operating costs are projected to increase by approximately 47 to 49 percent in the five-year phase, 101 percent in the fifteen-year phase, and up to 320 percent under the unconstrained long-term scenario, reflecting expanded service spans, increased trip frequency, and higher total service mileage across all lines. These projected increases in baseline and expansion operating costs indicate that traditional funding sources alone are unlikely to sustain long-term MARC growth, reinforcing the need to evaluate alternative and supplemental funding strategies capable of supporting phased service expansion.



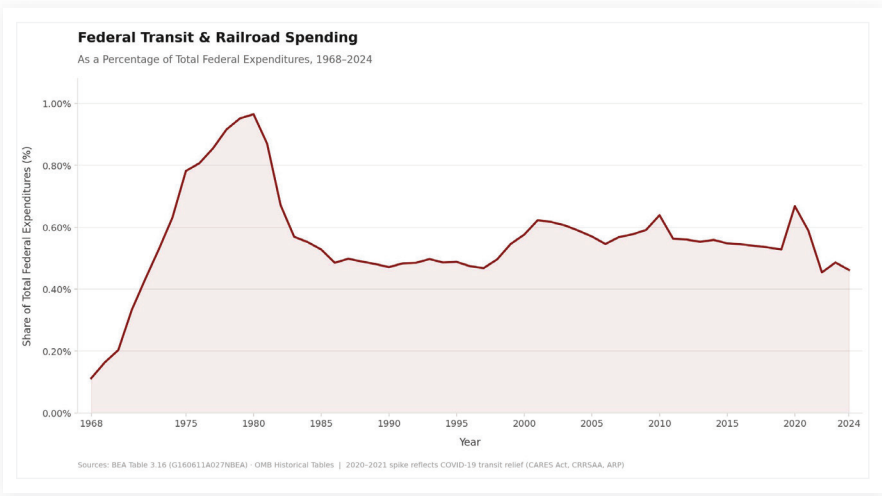
Maryland Transit Administration, 2025

The MARC Growth and Transformation Plan identifies several potential funding avenues, as well as constraints that are associated with the currently available funding pools. Federal funding is available through the U.S. Department of Transportation (USDOT) programs. There are formula-based programs, such as the Urbanized Area Formula Grants and the State of Good Repair Grant. USDOT also offers competitive discretionary grants, including BUILD, CIG, FSP, and CRISI (Maryland Transit Administration, 2025). MTA forecasts only about \$3.0 billion in federal funding over the next 25 years, which is insufficient to cover the total estimated costs (Maryland Transit Administration, 2025). There are also loan programs, such as TIFIA and RRIF, that are available, but these are not grants and impact state debt ceilings (Maryland Transit Administration, 2025).

THE LANDSCAPE OF PUBLIC TRANSPORTATION FUNDING

The financial stability of transit programs in the United States has declined sharply over the past five decades. The volume and reliability of federal funding have been declining, posing a major challenge for state Departments of Transportation (DOTs), metropolitan planning organizations (MPOs), and transit agencies such as the Maryland Transit Administration (MTA), which operates MARC. This uncertainty undermines the future of public transit infrastructure and services nationwide. Agencies are faced with ambiguity not only in the amount and sufficiency of federal support, but also in the timing of payments and compliance with ever-shifting regulatory requirements. In response, transportation agencies have spent the last several decades developing strategies to adapt, mitigate financial impacts, and manage risk in an unpredictable fiscal environment.

Historically, the Federal-Aid Highway Program established a stable backbone for the national interstate and major urban transit investments, largely funded by predictable revenue from federal fuel taxes (WSP USA, Inc, 2022). That stability has since eroded, and today, the United States meets only about one-third of its annual transportation maintenance and improvement needs, a shortfall that has persisted for roughly two decades (Park, 2012). This persistent gap has resulted in a nationwide federal funding deficit of \$400 billion over six years under existing policies and revenue streams (Park, 2012).



Federal Transit and Railroad Spending Relative to Total Federal Expenditures, 1968 - 2024

Source: Federal Reserve Bank of St. Louis

INNOVATIVE FUNDING AND FINANCING MECHANISMS

In response to funding constraints and the need for new capital investments, various innovative funding and financing mechanisms have gained prominence in the public transportation industry. The literature highlighted several promising mechanisms, including Value Capture strategies, Public-Private Partnerships (P3s), and Green Bonds, which are summarized below.

Value Capture Strategies:

Value capture involves methods for recovering part of the economic value created by public investment in transportation infrastructure to fund improvements (Vadali, 2014). This strategy recognizes that public infrastructure projects often raise neighboring property values and boost economic activity and seeks to redirect some of that increased value back into the transportation system. Transportation agencies have a variety of methods to choose from, with each providing unique opportunities and challenges.



Impact Fees (IFs):

These are charges imposed on new development to fund the infrastructure needed to serve that development (CPCS, 2015). While they can be efficient, their effectiveness in satisfying efficient pricing rules is uncertain, and they can be slightly regressive. Implementing IFs involves high initial transaction costs for feasibility studies, planning, and revenue management, but can provide a moderate to sizable source of steady revenues (Litman, 2014).



Sales Tax Districts (STDs) or Sales Tax Revenue Bonds:

These mechanisms leverage sales tax revenues generated within a defined district to finance specific projects (Litman, 2014). An example is a Sales Tax Anticipation Revenue Rebate (STARR) agreement, where a developer absorbs improvement costs and is later repaid through sales tax rebates generated by their development, as seen in the Eagle Road/Fairview Avenue project in Meridian City, Idaho (Vadali, 2014).



Special Assessment Districts (SADs):

These districts charge property owners for public improvements that specifically benefit their properties (Sciara et al, 2020). SADs are typically established through a sequential process involving initiation, feasibility studies, public notice, and appraisal assessments. Legal frameworks often allow special districts to finance a broader range of facilities beyond traditional property assessments (Vadali, 2014).



Negotiated Exactions (NEs):

These involve private developers providing contributions or improvements in exchange for development approvals (Oregon Metro 2023). NEs can be efficient in terms of price signals and growth, but their political and administrative feasibility can be complex, requiring careful coordination and agreement on development types. For instance, Alexandria, Virginia, negotiated a \$10 per square foot developer contribution for developments within a quarter-mile of a transit station (Vadali, 2014).

**Air Rights:**

This mechanism involves a private agency partly compensating a public agency for infrastructure costs by developing the “air space” above or adjacent to transportation facilities (Macek et al. 2017). This allows for development in prime locations without demolition or displacement. New York City has embarked on this strategy and identified numerous transportation infrastructure sites suitable for such surface development (Vadali, 2014).

**Joint Development:**

This entails collaboration between public and private entities to develop assets, often around transit stations, with the public entity obtaining commercial revenues (e.g., retail, office buildings, parking) (CPCS, 2015). Station development is a high-potential area for local agencies to actively engage in, improving station design and facilities while creating economic development opportunities. Joint development is considered efficient in terms of price signals and growth, and generally neutral to progressive in equity, though it can be a complex and lengthy process (Macek et al. 2017).

**Tax Increment Financing (TIF):**

TIF allows a local government to earmark the increase in property tax revenue (or other tax revenues) resulting from a development project for funding that project (National Cooperative Highway Research Program, 2012). Miami-Dade County, Florida, established a Transportation Infrastructure Improvement District using TIF to fund transit expansion projects under its Strategic Miami Area Rapid Transit (SMART) Plan, forecasting \$1.8 billion for Metrorail over 30 years to cover part of the \$6 billion plan cost (Sciara et al, 2020). Chicago also used TIF for its Red and Purple Modernization Phase One Project, with revenue distribution provisions that protected other jurisdictions like the school district (Sciara et al, 2020). TIFs are often criticized for their reliance on “blight” and “but for” tests, with some arguing for a shift towards economic development goals (Sciara et al, 2020).

Public-Private Partnerships:

Public-Private Partnerships (P3s) are contractual agreements between public transit agencies and private-sector entities, in which the private partner provides essential services to the agency and assumes certain risks related to transit operations in exchange for a return on investment (Macek et al., 2017). The integration of P3s into public transit systems is increasingly prevalent due to their capacity to deliver and operate projects more efficiently, at reduced costs, and with less financial risk, especially within environments characterized by limited resources and growing demand (Gaffey, 2010).

Opportunities for public-private partnerships within transit agencies generally align with five primary strategy areas of capital improvements, operations and maintenance agreements, real estate development, marketing agreements, and innovative technology (Macek et al, 2017). Capital improvements often rely on design-build-finance models and related agreements that enable infrastructure expansion while diversifying revenue streams. Operations and maintenance arrangements bring in private expertise to manage functions or commercial spaces that fall outside the core competencies of public agencies. Real estate development, particularly in the form of transit-oriented projects, leverages private investment to generate economic activity and land use benefits around transit nodes. Marketing agreements offer smaller-scale opportunities for private partners to gain advertising exposure or institutional access while contributing financially to service operations. Finally, the introduction of innovative technology enables agencies to modernize their systems and enhance the passenger experience by leveraging private sector capabilities in deployment and service delivery (Macek et al, 2017).

P3s are classified as small, medium, or large based on financial impact, risk transfer, revenue potential, and complexity relative to the transit agency's resources (Macek et al, 2017). Successful implementation depends on best practices identified in case studies, such as early project champions, ongoing communication, leveraging public assets, and transferring financial risks to private partners. Clear guidelines and performance targets ensure shared understanding and commitment (Macek et al, 2017). P3s offer a strategic approach for transit agencies to expand their capacity and improve efficiency through private sector collaboration, provided they follow best practices for successful implementation.

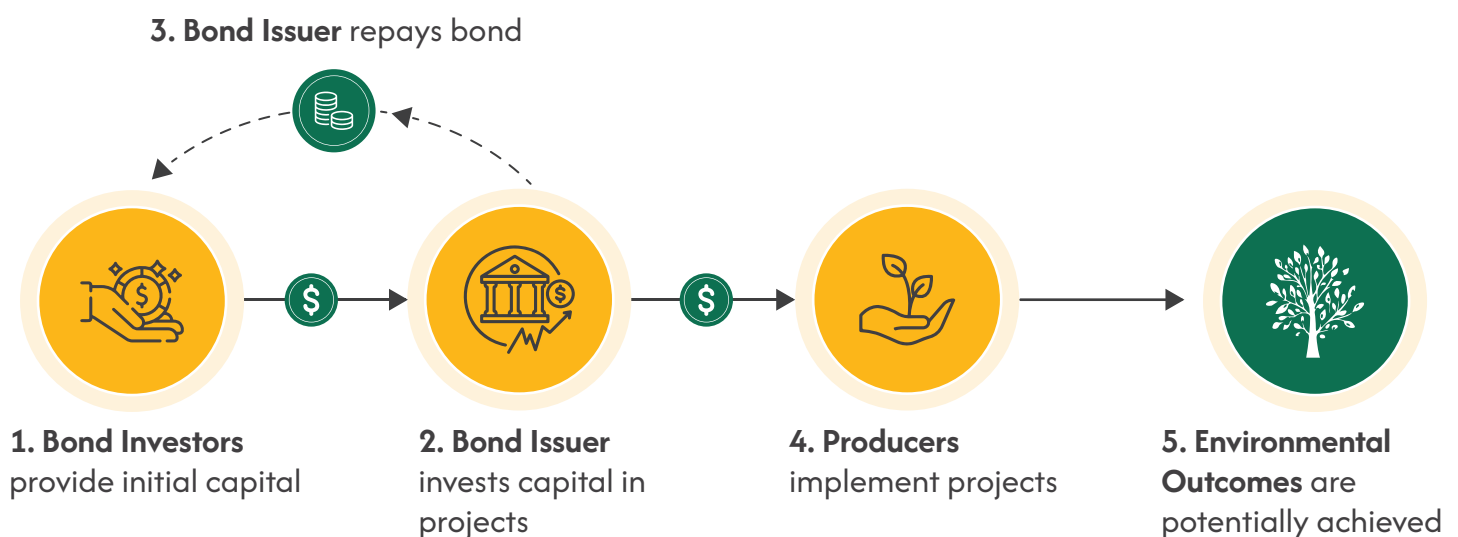
Green Bond Financing:

Green bonds are a growing financing tool that transit agencies can use to support capital projects with clear environmental benefits. These bonds function much like traditional municipal bonds but are marketed to investors who prioritize sustainability. For public transportation, green bonds can be particularly well-suited since expanding and electrifying rail service directly reduces greenhouse gas emissions and supports long-term climate goals (Fordham, 2021).

Issuing green bonds requires agencies to weigh both benefits and costs. Upfront work is often needed to establish internal policies, reporting processes, and tracking systems that demonstrate compliance with recognized standards, such as the International Capital Market Association’s Green Bond Principles. Although issuance costs can be slightly higher than conventional bonds, they tend to be small relative to the overall size of typical transit financing packages. A larger risk is the perception of “greenwashing,” where projects are marketed as environmentally beneficial without clear evidence. Credible impact assessments and transparent reporting help safeguard against this risk (Fordham, 2021).

Timing also matters. Agencies that decide early to pursue green bonds can integrate sustainability metrics into the project design and funding plan from the outset, rather than building them in after the fact. For systems with recurring capital needs, establishing a dedicated green bond program can be especially effective. Transit agencies in New York have taken this approach, which provides investors with confidence, creates efficiencies for future issuances, and helps reinforce long-term commitments to environmental goals (Fordham, 2021).

STANDARD GREEN BOND FORMAT:



Synthesis and Research Rationale

The MARC Growth and Transformation Plan lays out a framework for reshaping Maryland's regional rail system into a more frequent, accessible, and economically productive network. The Plan's projected benefits include faster travel times, expanded service, and billions in economic output, making a strong case for long-term investment. At the same time, the Plan highlights a significant funding gap, one that exceeds current federal and state resources and requires creative solutions beyond baseline revenues.

Addressing this gap will require identifying models that combine innovative financing tools, such as value capture mechanisms, public-private partnerships, and green bonds, with sustained public investment and strong intra-agency coordination. In this paper the analysis, including case studies, examines how other states and regional rail agencies have used these mechanisms to advance similar goals, offering insights that can inform Maryland's strategy for implementing the MARC Growth and Transformation Plan.



B&O Railroad Museum, 2024

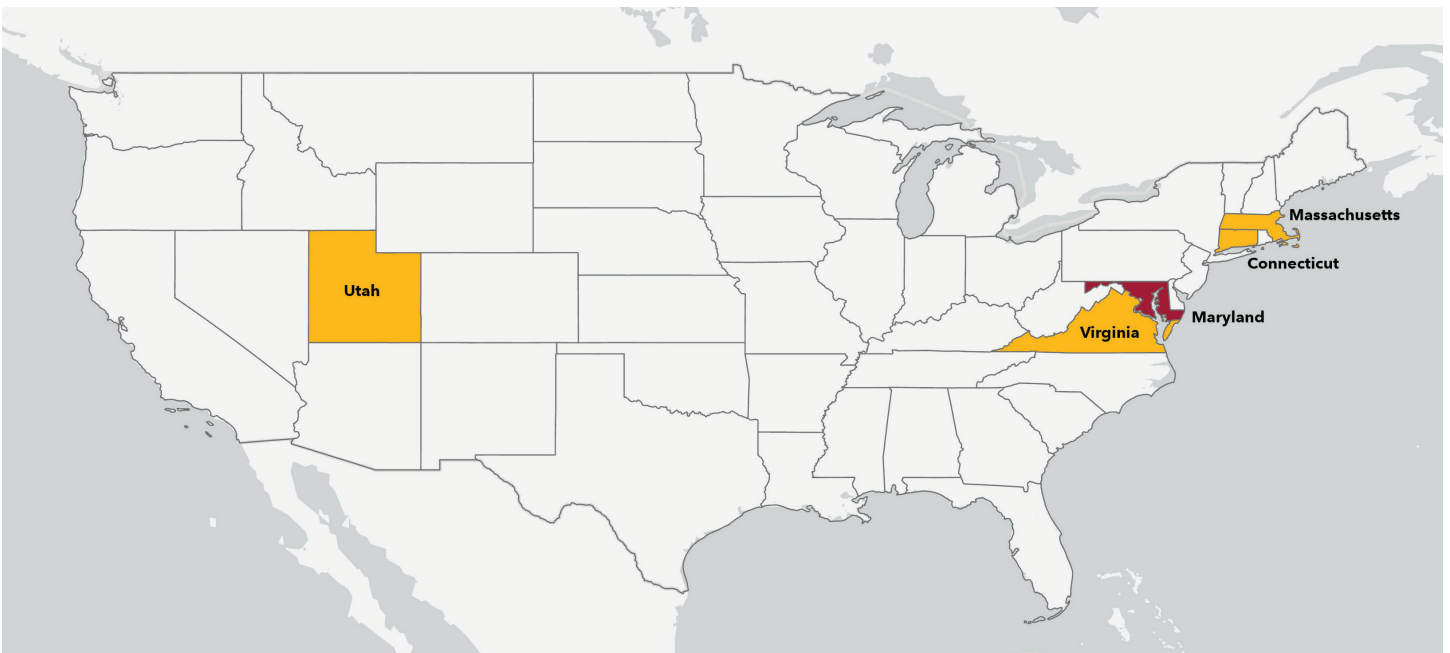
METHODOLOGY

CASE SELECTION AND COMPARATIVE FRAMEWORK

This project uses a qualitative comparative case study approach to examine innovative funding and governance strategies for expanding state-supported passenger rail systems. Case study methodology allows for an in-depth exploration of complex institutional, financial, and operational contexts, making it possible to identify patterns, challenges, and best practices that may not be apparent through quantitative analysis alone. The cases analyzed for the study will then be used to identify funding approaches applicable to the Maryland Transit Administration's MARC Growth and Transformation Plan. In seeking cases for the project several criteria were important. These included similarity to Maryland, relevance to MARC's operating context, and evidence of recent or ongoing rail investment initiatives.

Virginia, Massachusetts, and Connecticut were selected for their structural and operational similarities to Maryland. Each represents a smaller, densely populated East Coast state with a rail system oriented around a major urban center: Washington, D.C., for Virginia, Boston for Massachusetts, and New York City for Connecticut. Like Maryland, these states balance the dual objectives of providing commuter access to large employment markets while maintaining intercity connectivity within compact geographic corridors.

MAP OF CASE STUDY LOCATIONS



Their rail agencies, the Virginia Passenger Rail Authority, the Massachusetts Bay Transportation Authority, and the Connecticut Department of Transportation, operate within mature multimodal networks that face comparable challenges related to infrastructure reinvestment, long-term capital funding, and the integration of climate and equity considerations into planning and operations.

These states also share institutional characteristics that strengthen their value as peer comparisons. Each maintains a strong state-level role in rail ownership, capital planning, and funding allocation, while coordinating with federal partners, host freight railroads, and regional stakeholders to deliver service. All operate within the same federal funding environment as Maryland and rely on combinations of dedicated revenues, bonding authority, and discretionary grants to support long-term investment. Together, these cases provide insight into how peer states are modernizing governance structures and funding mechanisms to expand passenger rail capacity within the constraints of the U.S. federal system.

Utah was included to provide a contrasting perspective from a rapidly growing western state with a consolidated regional transit governance model. The Utah Transit Authority integrates commuter rail, light rail, and bus service under a single agency serving multiple counties along the Wasatch Front. Its emphasis on coordinated land use planning, regional cost sharing, and phased capital expansion offers a useful comparison to Maryland's more fragmented institutional framework. Including Utah allows the analysis to assess how different governance and funding structures influence financial stability and service expansion outside the Northeast Corridor context.

International examples were deliberately excluded from case study consideration due to fundamental differences in governmental structure, funding authority, and policy context. Many international rail systems operate under unitary governments with consistent national funding and centralized decision-making, which limits their applicability to the U.S. federal system. Similarly, city-specific heavy rail subway systems, such as the Washington Metropolitan Area Transit Authority (WMATA), were excluded, along with rapid service light rail systems, such as the MTA Purple Line or the Kansas City Streetcar, because they primarily provide high-frequency urban transit rather than regional commuter and intercity service.

DATA COLLECTION METHODS

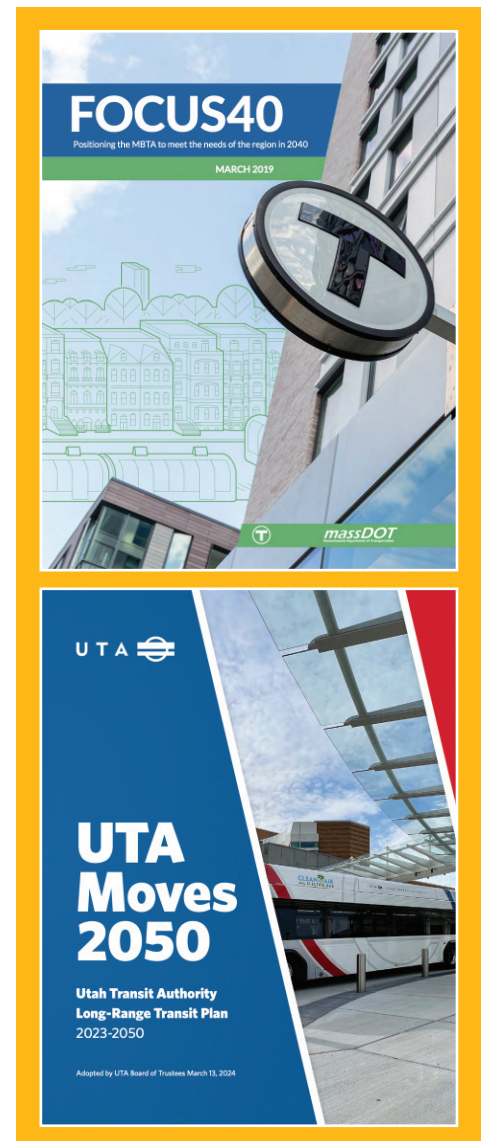
The analysis of the case-study transit agencies draws on three primary sources of qualitative data: document review, semi-structured interviews, and targeted comparative policy analysis.

A comprehensive document review was conducted for each case study state. Analyzed documents include state rail plans, capital investment programs, enabling legislation, budget documents, bond prospectuses, federal grant applications, agency strategic plans, and publicly available performance reports. These materials provide foundational information on governance structure, revenue sources, capital prioritization, and stated policy objectives. Document selection followed a systematic approach, prioritizing materials published within the past ten years and those directly tied to passenger rail funding, governance reform, or major service expansions including Focus 2040 from Massachusetts DOT, UTA Moves 2050, Time for CT, and Strengthening Connections from the VPRA.

Second, the project incorporates semi-structured interviews with practitioners and subject matter experts involved in passenger rail planning, funding, or governance in the selected states. Initial interview recommendations were provided by MARC leadership, after which snowball sampling was used to identify additional interviewees both within the case study agencies and outside of them. The interviewed parties varied by availability and include state rail agency staff, transportation department officials, and policy experts with direct knowledge of rail finance or institutional reform. Interviews were conducted virtually and followed a standardized interview guide (Appendix 1) to ensure consistency across cases while allowing flexibility.

Interview summaries were developed to capture key observations, emerging themes, and areas of disagreement or uncertainty. Rather than serving as a standalone evaluative tool, the interview findings informed the direction of the comparative policy analysis, refined the understanding of state-specific contexts, and helped interpret differences in funding strategies and governance structures across cases.

The third method of analysis is a targeted comparative policy analysis across cases, which is the systematic examination of policies, programs, and governance structures across multiple jurisdictions to identify lessons that can inform decision making.



Source – MassDOT, 2019

This component focuses on identifying and categorizing funding mechanisms such as dedicated taxes, general fund appropriations, bonding strategies, public-private partnerships, and value capture tools, as well as governance arrangements related to rail ownership, decision-making authority, and interagency coordination.

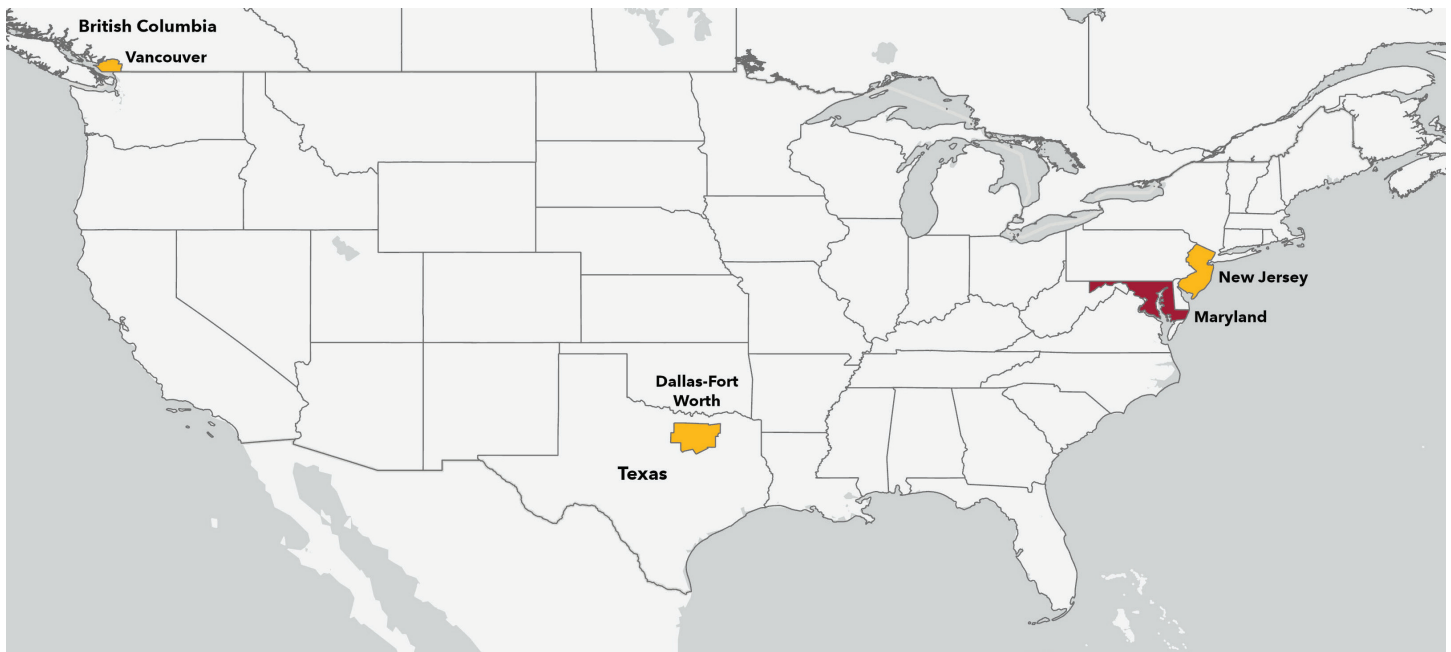
SUPPLEMENTAL EXPERT INTERVIEWS

In addition to interviews conducted within the selected case study states, this project incorporates supplemental expert interviews with practitioners whose experience provides a broader context for passenger rail funding and governance. These interviews are not formal case studies; instead, they serve to guide interpretation, explore emerging themes, and evaluate how observed practices can be applied to a Maryland context.

Supplemental conversations included representatives from Trinity Railway Express (Fort Worth, TX), New Jersey Transit, and TransLink (Vancouver, BC). Trinity Railway Express offers insight into joint service delivery and cost-sharing arrangements between multiple public agencies. New Jersey Transit provides perspective from one of the largest state-operated commuter rail systems in the country, with extensive experience managing legacy infrastructure, complex operating environments, and sustained capital investment programs. TransLink contributes a North American metropolitan perspective on regional governance, long-term capital financing within a multi-jurisdictional context, and the value of effective public communication.

The project also draws on conversations with senior leadership within the Maryland Transit Administration and MARC. These discussions provide contextual understanding of current institutional constraints, strategic priorities, and implementation considerations specific to Maryland. Insights from MARC leadership are used to ground the analysis in operational reality and to assess the feasibility of adapting funding and governance approaches observed elsewhere. To limit bias, these conversations are not used as primary evidence for cross-case comparison, similar to case study interviews. Instead, they function as contextual inputs that inform the evaluation of policy options and the development of recommendations.

MAP OF SUPPLEMENTAL LOCATIONS



RESEARCH LIMITATIONS

This study has several limitations. The small number of cases limits generalizability, and findings should be interpreted as illustrative rather than predictive. Interview data may reflect individual perspectives shaped by professional roles and personal experience, which can influence how challenges, successes, and constraints are characterized. Institutional positions and agency-specific cultures may also shape how respondents interpret policy choices and performance, limiting direct comparability across cases and constraining the extent to which insights from one organization can be assumed to apply uniformly to others. Publicly available documents may not fully capture informal decision-making processes or political negotiations that influence funding outcomes. For example, some transit organizations may treat planning documents as aspirational statements that do not fully assess feasibility prior to publication, while others may use the same documents as binding implementation guides, limiting the consistency and comparability of documented commitments across agencies. Time and resource constraints also limit the number of interviews and site-specific observations that were conducted.

Despite these limitations, the selected cases provide a strong basis for comparative analysis due to their relevance to Maryland's context and the depth of available documentation. By working across multiple data sources, the methodology aims to produce credible and policy-relevant insights for MARC's long-term funding and governance strategy.

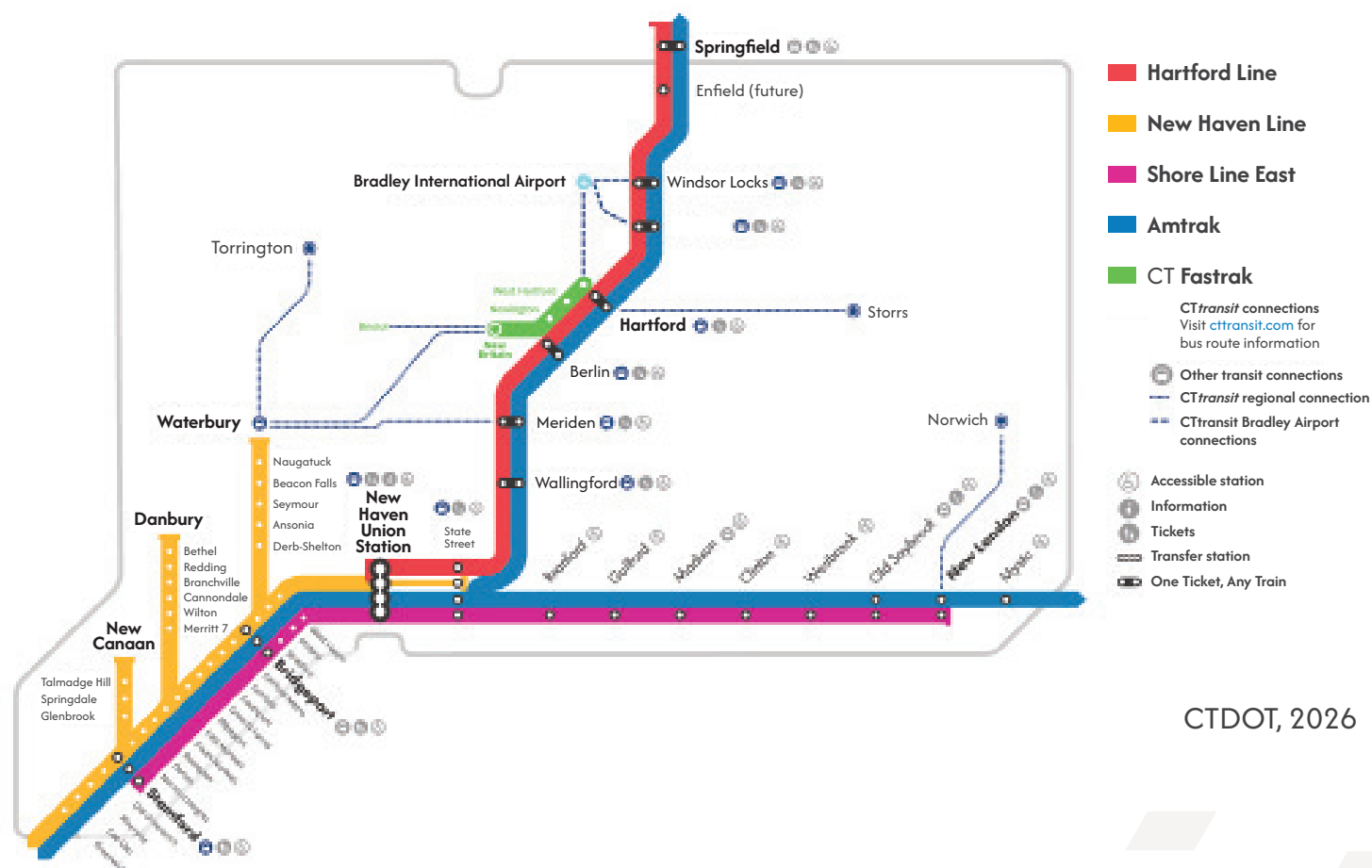
CASE STUDIES

CONNECTICUT

GOVERNANCE AND INSTITUTIONAL STRUCTURE

Passenger rail in Connecticut is managed by the Connecticut Department of Transportation (CTDOT). The Department holds primary responsibility for rail planning, capital investment, and coordination with federal and private partners (Connecticut Department of Transportation, 2022). The state's passenger rail network supports both daily commuter travel to major employment centers and intercity service along the Northeast Corridor (Connecticut Department of Transportation, 2022). Connecticut's passenger rail system encompasses approximately 629 miles of active rail corridors used for commuter and intercity services (Connecticut Department of Transportation, 2022). Rail service in the state is organized under two brands, Metro-North and CTail, operating along three primary corridors: the New Haven Line, the Hartford Line, and Shore Line East. Each corridor serves a distinct geographic and functional role within the state's rail network (Connecticut Department of Transportation, 2022).

MAP OF PASSENGER RAIL IN CONNECTICUT



The state does not manage the day-to-day operations of the state's commuter rail lines, instead they are delivered through contracts with external operators. Metro-North Railroad operates the New Haven Line, Amtrak operates Shore Line East, and TransitAmerica Services, Inc. operates the Hartford Line (Connecticut Department of Transportation, 2017; Connecticut Department of Transportation, 2022). This structure separates strategic planning and capital responsibility from service delivery, positioning CTDOT as an asset owner and program manager rather than a direct operator.

State law ties passenger rail capital financing to the State of Connecticut's general obligation framework, with rail capital projects financed through state-issued bonds rather than agency-level debt (General Statutes of Connecticut, 2024). CTDOT does not possess independent bonding authority for passenger rail, placing rail investment decisions within the broader context of statewide fiscal policy and legislative approval rather than within a standalone rail authority. Transportation revenues in Connecticut are deposited into the Special Transportation Fund (STF), rather than retained by CTDOT in agency-specific accounts (General Statutes of Connecticut, 2015). Fare revenue and other transportation receipts flow into the STF and are appropriated through the state budget process. This centralized structure reinforces fiscal oversight while limiting CTDOT's ability to directly retain or reinvest rail-generated revenues outside legislative appropriations (General Statutes of Connecticut, 2015).

FUNDING SOURCES AND FINANCING TOOLS IN PRACTICE

Connecticut finances transportation infrastructure and operations through the Special Transportation Fund, a dedicated state fund that supports both capital and operating expenditures across all transportation modes, including passenger rail (DeBenedictis & Phaneuf, 2024). STF revenues include motor fuel taxes, designated portions of the sales tax, motor vehicle fees, and other transportation-related receipts (General Statutes of Connecticut, 2015). These revenues are appropriated through the state budgeting process and serve as the primary funding base for CTDOT programs.

The State of Connecticut issues Special Tax Obligation (STO) bonds backed by STF revenues. STO bonds are the principal bonding mechanism for transportation investment and are used to finance highways, bridges, transit facilities, and rail projects (DeBenedictis & Phaneuf, 2024). Because these bonds are secured by statewide transportation revenues rather than rail-specific income, passenger rail capital investments compete within a multimodal transportation portfolio rather than operating under a dedicated financing stream.

Federal funding plays a complementary role. Over the past decade, CTDOT has been extremely successful in securing competitive federal discretionary grants to support corridor upgrades, rolling stock procurement, and capacity improvements, particularly along shared Amtrak corridors (Connecticut Department of Transportation, 2022). CTDOT has leveraged state bond commitments through the STF to provide matching funds for competitive federal rail grants, allowing the state to advance multi-year capital programs despite the absence of rail dedicated revenues (Connecticut Department of Transportation, 2022).



CTDOT, 2018

JOINT DEVELOPMENT AND ALTERNATIVE DELIVERY

Although Connecticut does not operate a formal value capture or rail revenue retention program, CTDOT has increasingly pursued joint development paired with alternative delivery structures to advance major station-area investments. These approaches emphasize integrated infrastructure delivery, private participation, and long-term asset stewardship rather than direct revenue generation from rail investment.

The most prominent example is the Stamford Transportation Center redevelopment, where CTDOT owns approximately 11 acres surrounding a major multimodal rail hub. CTDOT has solicited private partners to deliver a combined package of station reconstruction, transit facilities, and mixed-use development (Connecticut Department of Transportation, 2025). The Stamford solicitation departs from traditional public delivery by inviting proposals that bundle design, construction, financing, operations, maintenance, and real estate development within a single long-term agreement. This structure shifts construction risk, lifecycle cost risk, and certain operating responsibilities to the private sector while allowing CTDOT to retain ownership of the rail assets and control over transportation functions.

While CTDOT does not describe this approach as an infrastructure concession or infraco, it is infraco adjacent in practice. An infraco typically bundles financing, delivery, and long-term asset management under a single private counterparty. Relative to a large-scale PPP, this structure is more limited in scope and risk transfer. CTDOT retains ownership and policy control while using long-term agreements and state-owned land to consolidate delivery and maintenance and mobilize private capital without issuing project-specific debt.

A second example is the New Haven Union Station joint development initiative, where CTDOT has selected a private development partner to advance large-scale mixed-use redevelopment on underutilized, state-owned land adjacent to one of the busiest rail stations in the state (Connecticut Department of Transportation, 2024). The project integrates station-area improvements with residential and commercial development and positions CTDOT as an active landowner and development partner rather than a passive facilitator. While project documents do not establish a standardized revenue-sharing framework, the scale and integration of the development demonstrate CTDOT's capacity to assemble land, coordinate partners, and align rail investment with long-term urban redevelopment objectives. Together, Stamford and New Haven illustrate how Connecticut is experimenting with asset-based delivery models that move beyond rail service delivery even as revenues remain centralized.



A 3-D rendering of the proposed station improvement to the Stamford Transportation Center from the 2024 STC Master Plan

CTDOT, 2024

BUNDLED OPERATIONS AND RISK ALLOCATION ON THE HARTFORD LINE

CTDOT's operating model for the Hartford Line further illustrates institutional innovation through contract structure rather than new funding sources. The corridor operates under a bundled, multi-year service agreement that integrates train operations, rolling stock maintenance, and revenue management within a single contract (Connecticut Department of Transportation, 2017). This approach shifts performance and cost risks to the contracted operator, including operational efficiency, maintenance execution, and service reliability.

By consolidating these functions, CTDOT limits exposure to short-term operating cost volatility. The state retains authority over service levels, fares, and capital investment decisions while relying on private delivery for day-to-day operations. This model allows CTDOT to function as a rail program manager and asset owner, mirroring governance arrangements seen in more autonomous rail authorities without requiring the creation of a standalone operating entity. Although the Hartford Line does not generate independent operating surpluses or dedicated reinvestment streams, the contract structure represents a meaningful shift in how passenger rail services are delivered in Connecticut. The innovation lies in risk allocation and institutional capacity, demonstrating how rail service can be modernized within a centralized budget and governance framework.

IMPLEMENTATION CONSTRAINTS

While the Special Transportation Fund provides a stable and dedicated revenue base, it also creates inherent tradeoffs in capital programming. STF revenues and STO bond proceeds support a wide range of transportation investments, including highways, bridges, transit facilities, and passenger rail projects (General Statutes of Connecticut, 2015). As a result, rail capital investments must compete with other statewide transportation priorities rather than drawing from a rail-specific funding source.

This multimodal funding structure requires CTDOT and the General Assembly to balance competing infrastructure needs when allocating bond proceeds. This can then affect the timing and scale of passenger rail investments even when long-term plans and identified needs are well established. Connecticut demonstrates that dedicated transportation funding can improve predictability while still limiting rail-specific financial autonomy, reinforcing the role of institutional design and delivery models as the primary sources of innovation rather than revenue generation.

VIRGINIA

GOVERNANCE AND INSTITUTIONAL STRUCTURE

Passenger rail in Virginia is overseen by the Virginia Passenger Rail Authority (VPRA), a political subdivision of the Commonwealth established in 2020 to promote, sustain, and expand passenger and commuter rail service statewide (Virginia Passenger Rail Authority, 2022). VPRA operates in coordination with the Virginia Department of Rail and Public Transportation (DRPT) and is responsible for rail service planning, capital investment, right-of-way acquisition, infrastructure development, and oversight of state-supported passenger rail operations. This governance structure reflects a deliberate shift by Virginia toward centralized rail authority and long-term asset control.

Virginia's passenger rail system integrates state-supported intercity rail, national Amtrak services, and commuter rail. State-supported Amtrak Virginia services operate along multiple corridors connecting Washington, D.C., with Richmond, Norfolk, Newport News, and Roanoke, forming part of the broader Northeast and Southeast rail corridors (Rephann et al., 2024). These services are complemented by the Virginia Railway Express (VRE), which provides commuter rail service in Northern Virginia. While VRE is owned and managed by regional transportation commissions, VPRA plays a growing role in capital investment and corridor ownership, supporting VRE service reliability and expansion (Rephann et al., 2024).

A defining feature of Virginia's approach is the direct acquisition of rail infrastructure. Through the 2019 Transforming Rail in Virginia initiative, VPRA has acquired hundreds of miles of rail right-of-way and track from CSX and Norfolk Southern. This acquisition transitions passenger rail away from reliance on freight-owned infrastructure (Virginia Passenger Rail Authority, 2022). This asset-centric governance model enables Virginia to control capacity allocation, separate passenger and freight operations, and plan service expansions independent of private railroad constraints.



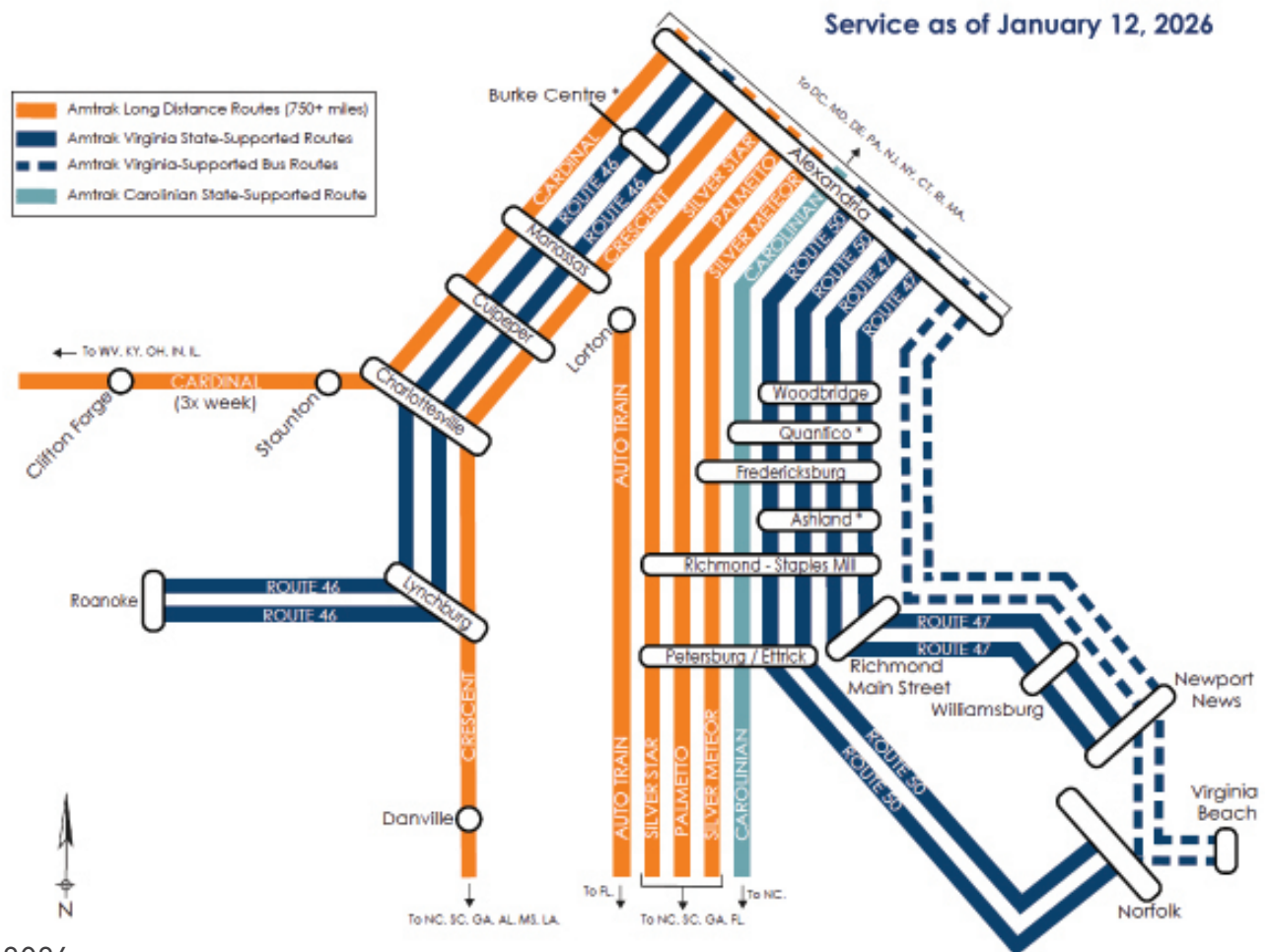
VPRA, 2019

FUNDING SOURCES AND FINANCING TOOLS IN PRACTICE

Virginia supports passenger rail investment through a combination of dedicated state funding, federal grants, partner contributions, and financing mechanisms administered through VPRA. The Commonwealth Rail Fund (CRF) was established alongside VPRA and receives a fixed share of statewide transportation revenues. Approximately 93 percent of CRF revenues are dedicated to VPRA, providing a stable and predictable funding base for passenger rail capital and operating needs (Virginia Passenger Rail Authority, 2022). This dedicated funding stream marks a significant departure from prior practice and allows rail investment to be planned on a multi-year basis.

Unlike Connecticut's fully centralized transportation finance model, Virginia has granted VPRA explicit authority to borrow money and issue bonds for rail facilities (Rephann et al., 2024). This authority allows VPRA to sequence capital delivery over time, smooth funding availability, and align infrastructure investments with long-term repayment schedules. By locating borrowing authority within the VPRA, Virginia has effectively created a rail-specific balance sheet.

MAP OF PASSENGER RAIL IN VIRGINIA

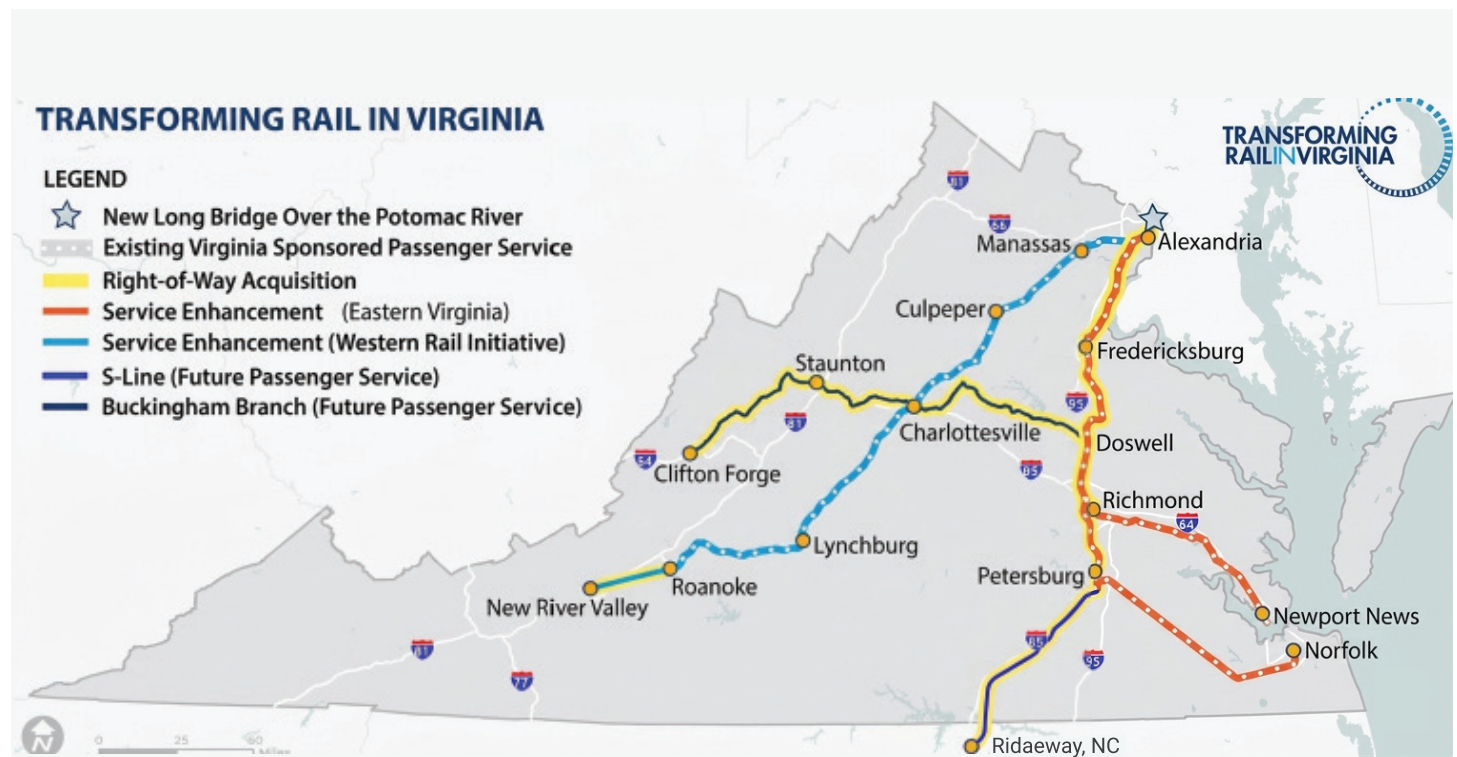


VPRA, 2026

Building on this authority, VPRA has adopted an innovative approach to farebox-backed financing, treating passenger ticket revenues as a resource that can support capital financing rather than as operating revenue alone. VPRA budget and financial planning documents identify “Passenger Ticket Financing” as a revenue source. This model leverages projected future fare revenues to support debt issuance as part of the Authority’s broader capital program (Virginia Passenger Rail Authority, 2023; Virginia Passenger Rail Authority, 2025). While fare revenues remain modest relative to total capital needs, this approach is notable in the U.S. state passenger rail context because it formalizes a mechanism for converting recurring rail cash flows into upfront capital capacity.

Virginia has also implemented a regional partner capital stacking model that channels commuter rail resources into statewide corridor investments. Under agreements associated with the Transforming Rail in Virginia program, the Virginia Railway Express has committed both proceeds from a CROC-backed debt issuance and additional pay-as-you-go capital contributions to VPRA to support right-of-way acquisition from CSX and the design and construction of shared corridor improvements (Virginia Railway Express, 2025). This structure allows VPRA to integrate regional commuter funding with state intercity rail investments, aligning incentives across agencies while maintaining VPRA as the central program manager and asset owner. Together, these approaches provide flexibility in project sequencing and risk management that is not available to rail programs operating solely within centralized state budget frameworks.

RAIL OWNERSHIP IN VIRGINIA

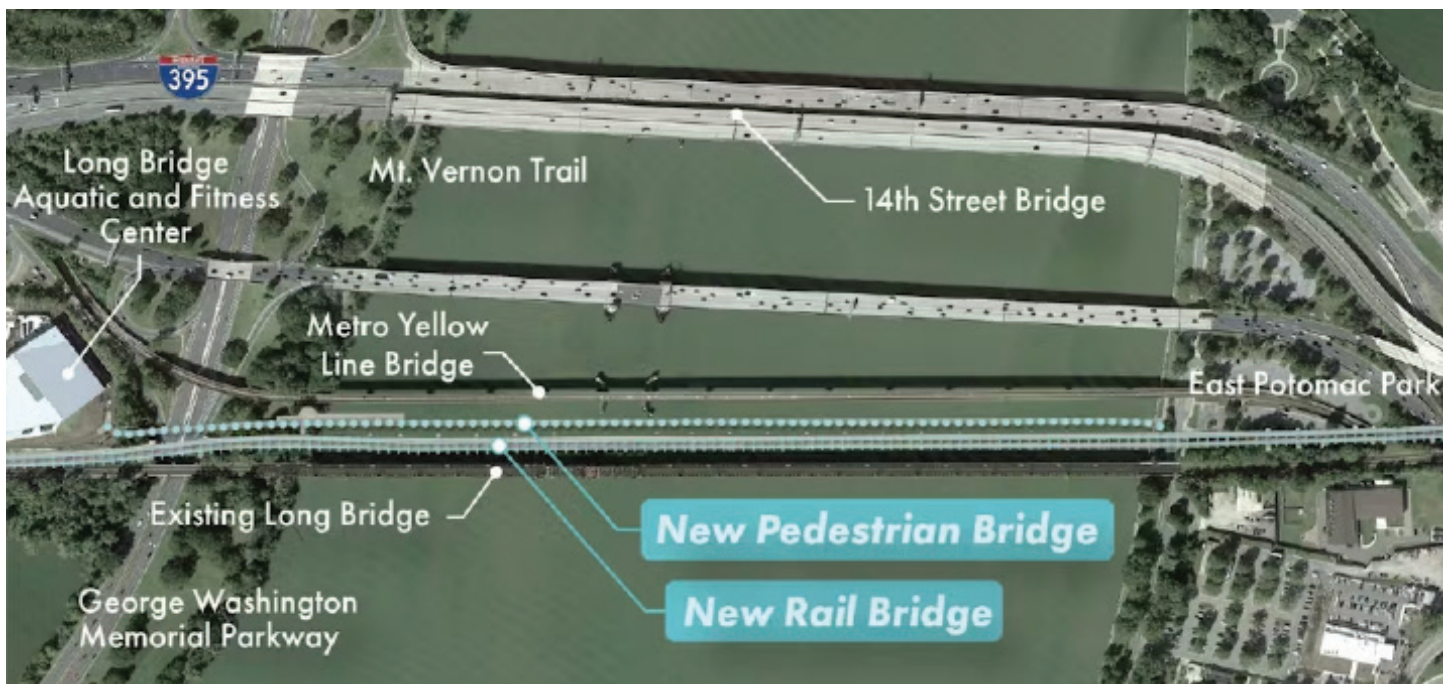


Rephann et al., 2024

ASSET OWNERSHIP AND CAPACITY EXPANSION

Virginia's emphasis on public ownership of rail infrastructure is closely tied to its financing and service expansion strategy. Through negotiated agreements with CSX and Norfolk Southern, the Commonwealth has acquired key segments of rail corridors paralleling I-95, I-64, and I-85, as well as the V-Line connecting Roanoke to Christiansburg (Virginia Passenger Rail Authority, 2022). These acquisitions reduce long-term exposure to freight-hosting constraints and allow VPRA to directly manage capital improvements and capacity allocation.

Major capital programs under TRV include phased improvements along the I-95 corridor, construction of the new Long Bridge across the Potomac River, and expansion of service to the New River Valley. These investments are designed to nearly double state-supported Amtrak service and expand VRE operations, including the introduction of weekend and late-night commuter service (Virginia Passenger Rail Authority, 2022). Public ownership of rail assets enables VPRA to coordinate investments across operators and corridors while aligning infrastructure upgrades with long-term service plans.



Federal Railroad Administration, 2019

Aerial view of the Long Bridge corridor showing the existing rail bridge and the planned additions of a new two-track rail bridge and a parallel pedestrian and bicycle bridge connecting Arlington, Virginia to Washington, DC.

TRANSIT-ORIENTED DEVELOPMENT, ASSET REVENUE, AND VALUE CAPTURE

Virginia's passenger rail framework permits VPRA to retain and apply revenues associated with its rail assets, including lease income, rents, and fees related to the use of rail facilities and property. Under the Authority's enabling statute, all revenues received by VPRA are treated as trust funds and must be applied in support of its authorized capital, operating, and financing purposes (Code of Virginia, 2020). State law does not require rail-generated revenues to be deposited into a centralized transportation fund, allowing asset-related income to remain within the rail program.

Virginia does not operate under a standardized statewide value capture policy for passenger rail stations. Instead, joint development and other revenue-generating uses of rail property are addressed through project-specific procurement and contracting practices. While these revenues are not structured as a predictable or systemwide funding stream, the Authority's ability to retain and redeploy asset income provides flexibility that reinforces its broader financing capacity.

USES



Capital Projects

Right-of-way acquisitions and capital expenditures



Debt Service Costs

Associated with financing proceeds



Operations and Maintenance Costs

For existing and increased service levels



Capital and Operating Grants

Managed by DRPT and VPRA



 VIRGINIA RAILWAY EXPRESS AND THE LOCAL FUNDING MODEL

VPRA and Virginia Railway Express (VRE) operate distinctly but coordinate. VPRA leads statewide rail projects, while VRE is locally governed. VPRA supports VRE infrastructure, but VRE depends on local funding for operations, stations, and service decisions. VRE’s regional funding relies on local government participation, not a statewide subsidy (Virginia Railway Express, 2025). VRE is jointly governed by the Northern Virginia Transportation Commission (NVTC) and the Potomac and Rappahannock Transportation Commission (PRTC), with member jurisdictions contributing annually to both operating and capital budgets. These local contributions are required under VRE’s Master Agreement and are a condition of participation in the system (Virginia Railway Express, 2025).

Local funding is used to cover operating costs and capital expenses not fully supported by fare revenue, federal grants, or state assistance. Jurisdictional contributions are determined through commission approved formulas and policy decisions, reflecting ridership, service levels, and regional equity considerations. Local funds also frequently serve as the non-federal match for state and federal rail grants, allowing VRE to leverage larger external funding sources (Virginia Railway Express, 2025).

This model positions VRE as a locally anchored commuter rail system within a broader state-led rail investment framework, with local governments retaining a direct fiscal stake in service levels, capital priorities, and long-term system viability (Virginia Railway Express, 2025). The structure has proven innovative by clearly separating roles: the Commonwealth, through VPRA, focuses on major corridor capacity, asset ownership, and long-term network expansion, while local jurisdictions remain responsible for shaping service that reflects regional travel patterns and rider needs. This alignment has allowed VRE to leverage substantial state and federal investment without diluting local accountability, creating stronger incentives for jurisdictions to support stations, access improvements, and ridership growth. As a result, VRE benefits from both statewide strategic investment and sustained local commitment, reinforcing financial stability.

FUNDING SOURCES



PayGo

Commonwealth and local sources



Financing Proceeds

Derived from three revenue streams



Amtrak

Capital contribution



Federal Grant Awards

Including associated Commonwealth matches



Toll revenues and Concession payments

From two toll sources

PAGE | 29

MAY 2026

IMPLEMENTATION CONTEXT AND CONSTRAINTS

Virginia's passenger rail expansion is enabled by strong state commitment, asset ownership, and dedicated funding, but it remains subject to fiscal and implementation constraints. Transforming Rail in Virginia capital investments are phased over multiple decades and depend on sustained availability of state revenues, federal grants, partner contributions, and financing capacity (Virginia Passenger Rail Authority, 2022). VPRA's financial plan explicitly models affordability, risk, and timing to ensure that sources and uses remain balanced as projects advance.

Despite its expanded authority, passenger rail investment in Virginia must still compete with other statewide priorities for federal funding and political attention. Major projects such as the Long Bridge expansion also require multistate coordination and federal partnership, which can affect delivery schedules. Despite these limitations, Virginia represents one of the most institutionally advanced state passenger rail finance models in the United States, combining asset ownership, revenue retention, and financing authority within a single rail-focused entity.



NPR, 2018

MASSACHUSETTS

GOVERNANCE AND INSTITUTIONAL STRUCTURE

Passenger rail in Massachusetts is overseen by the Massachusetts Bay Transportation Authority (MBTA), a public authority responsible for commuter rail and urban transit services across the Greater Boston region. The MBTA owns rail infrastructure, stations, and rolling stock, while commuter rail operations are delivered through a long-term operating contract with Keolis Commuter Services, separating asset ownership and capital responsibility from day-to-day service delivery (MassDOT, 2019).

Despite its status as an independent authority, the MBTA operates within a governance and fiscal framework closely tied to the Commonwealth. Capital planning, borrowing, and operating subsidies are shaped by state statutes, MassDOT oversight, and the annual state budget process, which limit the Authority's fiscal autonomy even when it retains control over physical assets (MassDOT, 2019).

MAP OF PASSENGER RAIL IN MASSACHUSETTS



MBTA, 2022

FUNDING SOURCES AND FINANCING TOOLS IN PRACTICE

The MBTA's funding model relies on a combination of fare revenue, dedicated state tax receipts, municipal operating assessments, and state-backed borrowing. The primary source of dedicated operating funding is a share of statewide sales tax revenue, supplemented by required municipal contributions from cities and towns within the MBTA service district (Massachusetts Legislature, 2025).

Massachusetts expanded transportation funding in 2022 through the Fair Share Amendment, which imposes a 4 percent surtax on annual income above \$1 million and constitutionally dedicates the proceeds to education and transportation. While this revenue stream represents a significant new source of funding for transportation, allocations are made through the state budget process rather than being dedicated directly to the MBTA, reinforcing the Authority's reliance on statewide fiscal decisions (MBTA Advisory Board, 2024).



City of Wellesley, MA, 2025

ASSET MONETIZATION AND PROGRAM INCOME

The MBTA employs asset monetization strategies beyond fares and taxes, focusing on systemwide advertising, sponsorships, and limited naming rights. Advertising is managed through contracted vendors under revenue-sharing agreements with minimum guarantees, ensuring a modest but reliable income stream. Premium formats such as station domination, vehicle wraps, and high-visibility placements are actively marketed at higher rates (Annear, 2014).

The Authority has also explored corporate partnerships and naming rights. This demonstrates institutional openness to monetizing assets without transferring ownership; public and political sensitivity has limited implementation (Annear, 2013). Advertising and sponsorship provide valuable supplemental funding that helps support the MBTA's operations and capital programs (Mohl, 2016).

TRANSIT-ORIENTED DEVELOPMENT AND JOINT DEVELOPMENT

Massachusetts has pursued transit-oriented development through selective joint development arrangements rather than a standardized statewide policy. The Boston Landing commuter rail station represents the most prominent example. The station was privately financed and constructed by New Balance, a major sportswear company, as part of a larger mixed-use development that houses its corporate headquarters. New Balance sought to provide public transit access to attract employees and to make working and visiting the downtown headquarters easier and more desirable. Station naming rights were incorporated directly into the development agreement, explicitly linking rail infrastructure to adjacent real estate value creation (Institute for Sustainable Infrastructure, 2017). Under this arrangement, the MBTA did not finance or construct the station but integrated the privately delivered facility into the commuter rail network. This model demonstrates how private capital can deliver rail infrastructure in high-value locations without requiring the MBTA to assume development costs (Clauss, 2017).

The plans for Boston's West Station and the Allston Multimodal Project further illustrate the scale of unrealized TOD potential within the MBTA system. The West Station Area Transit Study emphasizes the opportunity to align major rail investment with large-scale land redevelopment, while also highlighting the complexity of multi-agency coordination and the absence of a dedicated value-capture mechanism controlled by the MBTA. TOD in Massachusetts, therefore, functions primarily as an enabling strategy rather than a reliable or systemwide revenue source.



MBTA, 2025

EVENT-DRIVEN INFRASTRUCTURE INVESTMENT

The Foxboro Station upgrades provide another example of private-sector participation. The Kraft Group, a sports and event management company that owns the New England Patriots, funded design work associated with station improvements in advance of hosting the World Cup, while responsibility for construction and capital funding remained with the MBTA (Vyskocil, 2025). This model reflects partial private participation rather than full private delivery. While event-driven partnerships can offset early-stage planning costs, they do not substitute for sustained capital funding or long-term operating support, illustrating the limits of relying on special-purpose partners for durable rail infrastructure investment (Vyskocil, 2025).

LOCAL OPERATING FUNDING AND STRUCTURAL CONSTRAINTS

The MBTA local assessment provides a stable but constrained operating revenue stream, anchoring the Authority's finances while limiting fiscal flexibility. Municipal contributions create a financial relationship between the MBTA and local governments without conferring proportional governance authority or control over service decisions (Massachusetts Legislature, 2025). Combined with flat sales tax performance and rising operating costs, this structure has contributed to the persistent operating gaps identified in recent budgets (MBTA Advisory Board, 2024). These constraints help explain why the MBTA continues to explore asset-based revenue strategies, joint development opportunities, and governance reforms despite its limited fiscal scale.

INFRASTRUCTURE COMPANY (INFRACO) MODEL UNDER CONSIDERATION

As part of its Regional Rail Modernization initiative, the MBTA has explored an Infrastructure Company (InfraCo) procurement model that would separate responsibility for rail infrastructure from passenger service operations. Under the current structure, rail infrastructure ownership and capital planning remain with the MBTA. Under the proposed InfraCo approach, infrastructure maintenance, modernization, and electrification would be delivered through a long-term private contract distinct from the operating contract for train service (Massachusetts Bay Transportation Authority, 2024). The intent is to align infrastructure delivery with whole-life cost management while allowing operating firms to focus on service quality and customer-facing performance.

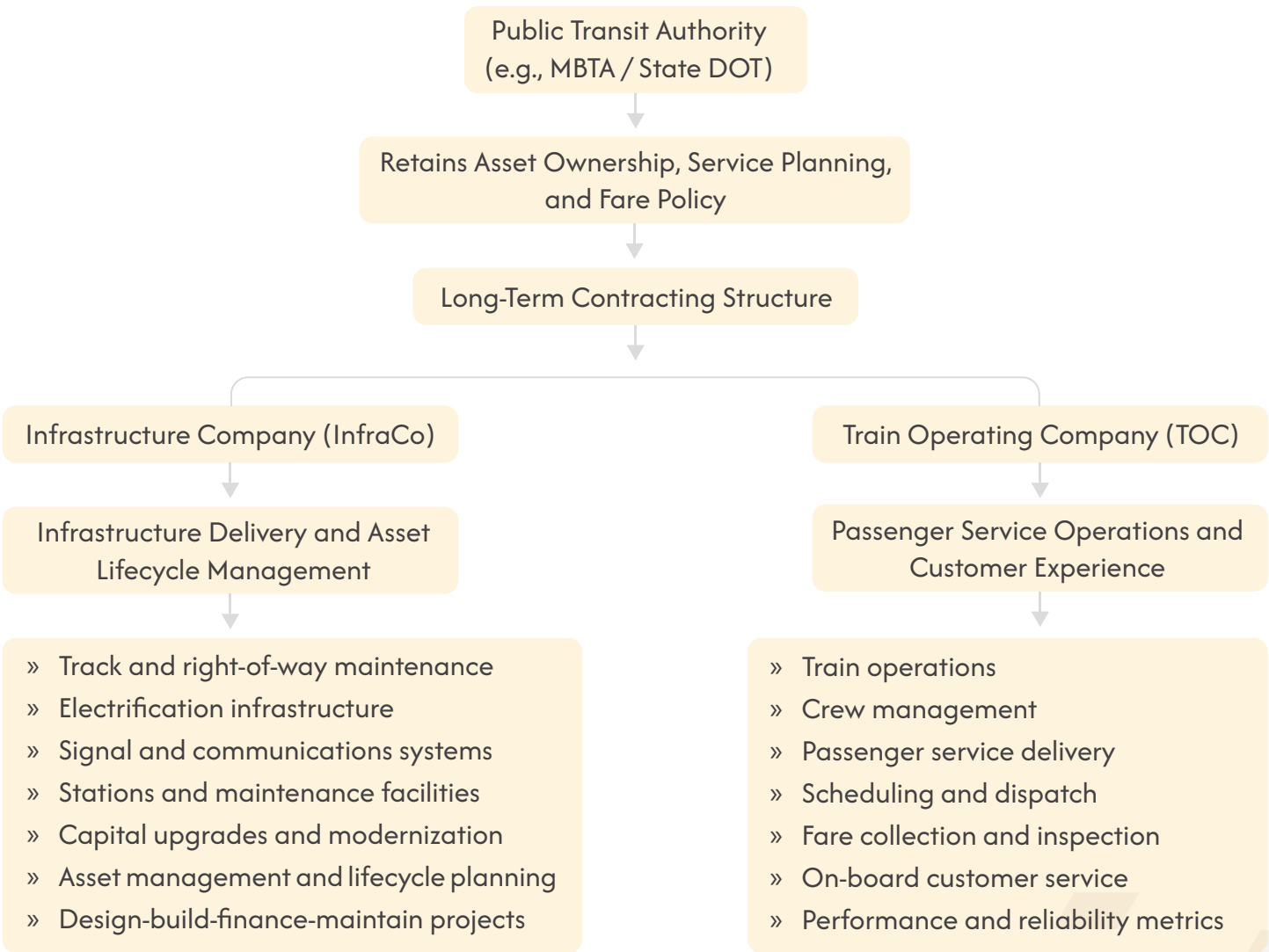
The concept for using InfraCo arose from an original idea to fully integrate operating and capital contracts. That idea was nixed when MBTA's market-sounding efforts found that a single all-encompassing contract would be too large and complex for most bidders (Massachusetts Bay Transportation Authority, 2024). By separating infrastructure from operations, the MBTA could attract firms with specialized expertise in infrastructure delivery, electrification, and asset management, including international providers.

Under the proposed model, the MBTA would retain ownership of all assets and control over service planning, schedules, and fare policy. The InfraCo would be contracted to maintain existing infrastructure, followed by an initial development phase (Massachusetts Bay Transportation Authority, 2024).

From there, InfraCo may deliver modernization upgrades, such as electrification, through private financing under a design-build-finance-maintain structure (Massachusetts Bay Transportation Authority, 2024). At the conclusion of the development phase, the MBTA would retain discretion to proceed with private delivery or revert to traditional public procurement methods, preserving institutional flexibility (Massachusetts Bay Transportation Authority, 2024).

Importantly, the InfraCo discussion has been framed by MBTA leadership as exploratory rather than prescriptive (Massachusetts Bay Transportation Authority, 2024). But the concept illustrates how the MBTA is testing institutional reforms to address the scale and complexity of regional rail modernization within existing fiscal constraints. While the model may improve cost discipline and access to specialized expertise, it does not fundamentally alter the Authority’s dependence on state-controlled capital funding and operating subsidies. As such, InfraCo should be understood as an organizational and procurement strategy rather than a substitute for sustained public investment.

INFRACO MODEL STRUCTURE



UTAH

GOVERNANCE, FUNDING STRUCTURE, AND
INNOVATION-ORIENTED INVESTMENT STRATEGYMAP OF PASSENGER
RAIL IN UTAH

Passenger transit in Utah is delivered by the Utah Transit Authority (UTA), a multi-county regional transit district governed by a board representing participating counties. Unlike systems that rely primarily on annual state appropriations or farebox recovery, Utah's model is built around locally enacted option sales taxes, supplemented by federal grants, leasing revenue, and bonding. This structure provides predictable revenue and enables UTA to pursue funding and ridership strategies that prioritize long-term system use rather than short-term cost recovery.



Utah Transit Authority, 2023

COUNTY-LEVEL SALES TAX STRUCTURE AS A CORE FUNDING INNOVATION

UTA's primary operating revenue source is a set of layered local option sales taxes adopted by counties and cities. Counties fully within the UTA service area, including Salt Lake, Utah, Davis, and Weber counties, impose combinations of first-, second-, third-, and fifth-quarter general sales tax to support transportation, with defined portions transferred directly to UTA for transit purposes. As a result, the effective sales tax rate supporting UTA varies by county, ranging from approximately 0.65 percent in Davis and Weber counties to roughly 0.78 percent in Salt Lake County (Wasatch Front Regional Council, 2025).

The UTA is guaranteed a dedicated share of locally generated revenue without requiring recurring legislative appropriations. This model allows for participation to expand incrementally as counties annex into UTA's service area or adopt additional tax authorities, allowing the funding base to grow alongside service coverage and political support. In practice, this functions as a regionwide value capture mechanism, where economic activity supported by transit generates sales tax revenue that is reinvested back into

the system. Because sales taxes account for roughly three-quarters of UTA's operating revenue, farebox revenue plays a limited role in system finance. This reduces exposure to ridership volatility and allows UTA to pursue policies that would be financially risky in fare-dependent systems.



NPR, 2023

RIDERSHIP DEVELOPMENT STRATEGY

UTA has used this fiscal flexibility to treat fare policy as a long-term ridership investment rather than a primary revenue tool. One of the most notable examples is the widespread provision of free transit access for students. In Salt Lake City, K–12 students are eligible to ride UTA services at no cost using school-issued transit passes, and similar universal access programs are in place at major higher-education institutions (Salt Lake City School District, 2022).

The scale of this policy is significant. Reporting has found that approximately one-third of UTA riders are students using institution-provided passes, highlighting both the reach of the program and the deliberate choice to accept short-term fare revenue losses (Davidson, 2017). From a funding perspective, this strategy is viable precisely because passenger revenue represents a small share of total operating income. From a policy perspective, it reflects an effort to normalize transit use early, build trust with younger riders, and cultivate long-term demand and political support for transit investment.

Weber State University, 2026

Description – Example of a university-issued transit pass used in fare-free student programs, which allows enrolled students to ride regional bus and rail services at no additional cost at the point of use.



SALT LAKE CENTRAL STATION TOD AND ASSET-BASED STRATEGY

UTA's approach to transit-oriented development illustrates how Utah integrates land use, capital planning, and funding strategy. The Salt Lake Central Station Area Plan, developed jointly by UTA, the Redevelopment Agency of Salt Lake City, and regional partners, frames the Central Station area as a regional mobility hub and a prime opportunity for mixed-use and multifamily redevelopment (Wasatch Front Regional Council, 2019). The Central Station plan is explicitly implementation-oriented. It identifies UTA-owned parcels, assigns lead agencies, and outlines development sequencing tied to public-private partnerships. Planned initiatives include residential and mixed-use development on UTA-controlled land, retail activation, and vertical development over the existing multimodal transit center, paired with the relocation of certain UTA administrative and operational functions to unlock redevelopment (Wasatch Front Regional Council, 2019). This strategy effectively turns UTA's real property holdings into a capital and revenue tool. By repositioning underutilized assets near a major transit hub, UTA can support ridership growth, generate lease revenue, and attract private investment without relying solely on new taxes or fares.

Wasatch Front Regional Council, 2019

Description – A 3-D rendering of the proposed station redevelopment of Salt Lake Central to convert the building into a downtown transportation and economic hub.

Downtown

Rio Grande Depot

Existing Amtrak Station

Future Development Site

Proposed Amtrak Space

New Transit Hall

CAPITAL STACKING AND ECONOMIC RETURN FRAMING

In addition to sales tax transfers and federal grants, UTA explicitly relies on leasing revenue and bond proceeds as capital funding sources. This enables the agency to advance large projects while smoothing cash flow and aligning repayment with long-term revenue streams. These strategies are reinforced by a strong economic justification narrative. UTA's economic return analysis estimates that every dollar invested in UTA operations and capital enables more than five dollars in additional economic output statewide, driven by travel time savings, labor market access, and induced economic activity (Utah Transit Authority, 2023). The same analysis attributes tens of thousands of jobs and hundreds of millions of dollars in annual tax revenue to UTA-supported activity, providing a clear rationale for continued public and private investment.

EXTERNAL CAPITAL ALIGNMENT FOR THE 2034 WINTER OLYMPICS

Utah's preparation for the 2034 Winter Olympic Games provides an additional example of innovative fiscal practices. Rather than relying primarily on public operating subsidies, Olympic organizers have launched a large-scale private fundraising effort intended to cover a significant share of event-related costs, limiting long-term public fiscal exposure (Schoenbaum, 2025). For UTA, the Olympics serve as a justification for accelerated service and capital improvements along key corridors, while the broader financing strategy allows transit investments to focus on projects with lasting post-event value.



NPR, 2024

CROSS-CASE ANALYSIS AND SYNTHESIS

This section synthesizes the Connecticut, Virginia, Massachusetts, and Utah case studies to examine how institutional design shapes passenger rail funding capacity, capital delivery, and long-term system growth. Rather than evaluating individual programs on their own terms, the analysis focuses on how governance structure, revenue control, asset ownership, and risk allocation interact to either expand or constrain rail investment. The purpose is not to identify a single “best” model, but to extract patterns and lessons that can shape recommendations and are relevant to the MARC system and its Growth and Transformation Plan.

GOVERNANCE STRUCTURE AND THE LOCATION OF AUTHORITY

Across the four cases, passenger rail governance spans a continuum from centralized state department control to rail-specific authorities with independent statutory powers. Connecticut represents a traditional state department model in which rail planning and capital investment are housed within a multimodal DOT. In this structure, innovation occurs primarily through contracting, joint development, and delivery mechanisms rather than through financial autonomy. Massachusetts occupies a hybrid position. The MBTA owns rail assets and oversees service delivery but remains closely tied to state fiscal oversight, statutory funding formulas, and municipal assessments that limit its independent financial capacity.

Virginia and Utah demonstrate more decentralized authority. Virginia’s creation of a rail-specific authority reflects a deliberate decision to consolidate corridor ownership, capital planning, financing, and revenue retention within a single entity. Utah’s model is decentralized in a different way, anchoring authority at the regional level through a multi-county transit district funded by locally enacted sales taxes. In both cases, governance authority is paired with predictable revenue streams and discretion over their use. The cases suggest that asset ownership or planning responsibility alone does not expand rail investment capacity. Meaningful flexibility emerges only when governance authority is paired with control over revenues and borrowing.

REVENUE CONTROL, RETENTION, AND FINANCIAL AUTONOMY

Revenue treatment is a key differentiator across the cases. Connecticut and Massachusetts route most transportation revenues, including fares and related receipts, through centralized funds or annual budget processes. This approach reinforces fiscal oversight but limits the ability of rail programs to retain and reinvest revenues in response to system needs. As a result, rail investment competes directly with other transportation priorities, even when long-term plans and identified capacity constraints are well established.

Virginia and Utah take the opposite approach. Virginia explicitly allows rail-generated revenues, including fares and asset income, to remain within the rail program as trust funds dedicated to authorized purposes. Utah’s reliance on local option sales taxes provides a similar effect, ensuring that revenue generated within the service area flows directly to the transit system without recurring legislative appropriation. In both cases, revenue predictability supports multi-year capital planning and reduces exposure to short-term ridership volatility.

The cross-case pattern is clear. Rail systems with retained, program-level revenue streams are better positioned to manage risk, sequence investments, and align capital delivery with long-term service goals. Systems dependent on centralized appropriations rely more heavily on contracting structures and delivery innovation to compensate for limited financial autonomy.

CAPITAL FINANCING AND BORROWING AUTHORITY

Borrowing authority further differentiates the cases, though its impact depends on the stability of repayment sources. Connecticut finances rail capital through state-issued bonds backed by transportation wide revenues, placing passenger rail within a multimodal capital program. Massachusetts similarly relies on state-backed borrowing, but long-term debt capacity is constrained by operating deficits and statutory funding limits.

Virginia stands apart in granting its rail authority explicit bonding authority and the ability to treat future fare revenues as a financing resource. While farebox receipts remain modest relative to capital needs, the formal recognition of ticket revenue as a financing input enables debt issuance and capital sequencing that are uncommon in U.S. state passenger rail programs. Utah combines bonding with predictable local sales tax revenue, aligning repayment with long-term regional economic growth rather than annual budget cycles.

Across the cases, borrowing authority matters less than the durability and predictability of repayment sources. Where revenues are retained and stable, debt functions as a tool for sequencing investment rather than as a fiscal risk. Where revenues are uncertain or externally controlled, borrowing capacity is either limited or politically constrained.

ASSET OWNERSHIP AND CAPACITY CONTROL

Asset ownership plays different roles depending on the broader institutional context. In Connecticut and Massachusetts, public ownership of rail infrastructure supports planning leverage and coordination but does not eliminate dependence on host railroads or statewide fiscal decisions. Ownership alone does not guarantee capacity expansion.

In Virginia, asset acquisition is central to the passenger rail strategy. Public ownership of key corridors reduces reliance on freight railroads, enables separation of passenger and freight operations, and supports coordinated service expansion across intercity and commuter rail. Utah's emphasis on asset ownership is more focused on land and station areas than on corridor acquisition, using real property to support development, ridership growth, and long-term revenue generation.

The synthesis suggests that asset ownership is most effective when paired with capital authority and revenue retention. Absent those elements, ownership functions primarily as a coordination and planning tool rather than a growth mechanism.

JOINT DEVELOPMENT, TOD, AND ASSET-BASED REVENUE

All four cases demonstrate experimentation with joint development and transit-oriented development, but none rely on these strategies as primary funding sources. Connecticut and Massachusetts use joint development to bundle delivery, manage risk, or enable station investment in high-value locations. Virginia retains asset-related revenues within the rail program but does not treat them as a predictable funding stream. Utah integrates land use planning directly into its capital strategy, using leases and redevelopment to support both ridership and financial stability.

Across cases, TOD functions as a capital leverage and ridership strategy rather than as a substitute for dedicated funding. Expectations that land value capture alone can fund rail expansion are not supported by observed practice, particularly given timing, market, and political constraints.

RISK ALLOCATION AND INSTITUTIONAL INNOVATION

Where fiscal autonomy is limited, passenger rail agencies increasingly rely on institutional design to manage risk and advance investment. Rather than expanding revenue authority or borrowing capacity, agencies adjust how operating, capital, and lifecycle risks are allocated across public and private actors. These approaches reflect pragmatic responses to statutory and political constraints, enabling modernization and expansion without altering underlying funding structures.

Connecticut's Hartford Line illustrates how operating and maintenance risk can be reallocated through private operating contracts. This model shows how targeted contractual reforms can improve performance within a constrained fiscal framework, while also underscoring their limited impact when capital funding remains externally controlled.

Massachusetts presents a more complex case. The MBTA has used private participation for discrete projects such as Boston Landing and Foxboro station improvements while retaining long-term responsibility for assets, operations, and funding. Its exploration of an Infrastructure Company model reflects an effort to shift infrastructure delivery and whole-life cost risk without relinquishing public ownership or control. By separating infrastructure from passenger operations, InfraCo aims to leverage specialized private expertise while preserving public authority over service planning, fares, and capital priorities.

Virginia and Utah represent a different pathway, managing risk at the program level rather than through individual projects. Both pair public ownership of rail assets with dedicated revenue retention, bonding authority, and centralized capital planning. This structure allows agencies to internalize risk, align financing with phased expansion, and pursue corridor-level investment strategies.

Institutional innovation can improve risk management, project delivery, and engagement with private expertise. Contractual structures and development partnerships can reduce interface risk, but their impact is bounded. Without durable revenue authority and borrowing capacity, institutional design can shape implementation but not materially expand it. Fiscal constraints continue to set the limits on the scale, pace, and durability of passenger rail investment.



INSTITUTIONAL COMPARISON MATRIX

	Connecticut (CTDOT)	Virginia (VPRA)	Massachusetts (MBTA)	Utah (UTA)
Governance Structure	Passenger rail managed within a centralized state DOT structure	Rail-specific state authority with consolidated responsibility	Independent transit authority operating within strong state fiscal oversight	Regional multi-county transit district governed locally
Location of Decision Authority	Authority concentrated within statewide transportation budgeting processes	Authority consolidated within rail-specific agency	Shared between MBTA leadership and Commonwealth oversight	Authority distributed across participating counties through regional governance
Revenue Control and Retention	Revenues routed through centralized statewide transportation funds	Rail-generated revenues retained within dedicated rail trust funds	Revenues subject to statutory formulas and annual budget processes	Revenue generated locally through voter approved sales taxes flows directly to transit system
Revenue Predictability	Dependent on statewide appropriations and competing modal priorities	High predictability through dedicated rail funding sources	Revenues subject to statutory formulas and annual budget processes	High predictability through locally enacted sales tax revenues
Borrowing Authority	State-issued bonds backed by multimodal transportation revenues	Explicit rail-specific bonding authority	State-backed borrowing constrained by statutory and fiscal limits	Bonding supported by stable regional sales tax revenue
Asset Ownership Structure	Public ownership of key rail infrastructure but continued reliance on host railroads	Aggressive acquisition of corridor infrastructure to support passenger control	Public ownership of infrastructure and rolling stock	Emphasis on station area land and development-related assets
Infrastructure Control	Shared operational environment with freight host railroads	Increasing infrastructure independence through public corridor ownership	Infrastructure ownership paired with contracted train operations	Infrastructure integrated with regional development strategy

	Connecticut (CTDOT)	Virginia (VPRA)	Massachusetts (MBTA)	Utah (UTA)
Risk Allocation Model	Reliance on contracting and project delivery structures to manage risk	Lifecycle and delivery risk centralized within rail authority	Use of long-term operating contracts and exploration of InfraCo procurement	Risk managed through phased expansion supported by predictable revenue
Role of Private Sector Participation	Used primarily in capital delivery and joint development	Used strategically for construction and delivery but coordinated by public authority	Extensive use of private operating contracts and infrastructure delivery models	Used selectively in development and supporting infrastructure projects
Capital Planning Flexibility	Limited by centralized revenue structure and multimodal competition	High flexibility due to consolidated authority and retained revenue	Moderate flexibility constrained by statutory and funding structure	High flexibility due to predictable regional funding base
Institutional Risk Strategy	Innovation occurs through procurement and delivery structures	Risk reduced through asset control and integrated planning authority	Institutional separation between operations and infrastructure functions	Risk reduced through stable funding and incremental system expansion

MARC

SUPPLEMENTAL PERSPECTIVES

In addition to the formal case studies, this section highlights a small number of institutional practices observed in peer rail systems that are relevant to identifying innovative funding options for MARC expansion. These examples are intentionally selective rather than comprehensive. They do not represent full assessments of agency governance, funding structures, or performance. Instead, they focus on approaches not covered in the case study synthesis, including the strategic use of publicly owned land, effective communication, and coordination across public agencies.

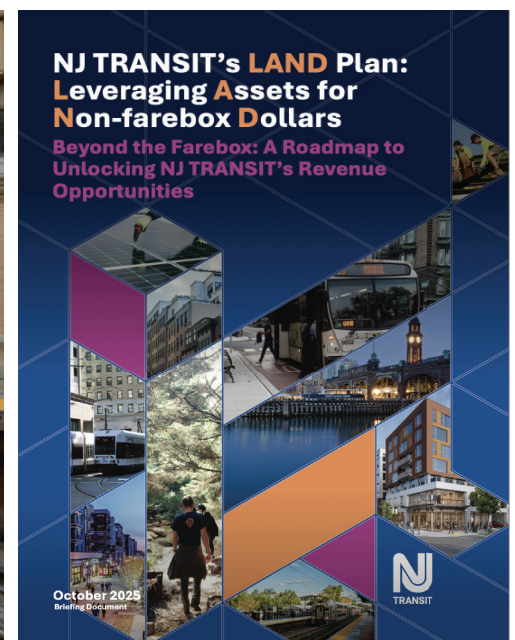
NEW JERSEY TRANSIT - ASSET MONETIZATION STRATEGY

New Jersey Transit's LAND Plan represents one of the most explicit attempts by a U.S. commuter rail agency to formalize asset monetization as a long-term strategy rather than as a series of ad hoc development projects. The plan is framed as a non-farebox revenue roadmap. The plan identifies how NJ Transit could leverage its extensive real estate holdings, station areas, and ancillary assets to generate supplemental recurring revenue while advancing broader housing, economic development, and environmental objectives held by the state (New Jersey Transit, 2025). The LAND Plan does not propose privatizing rail infrastructure or relying on one-time asset sales. Instead, it emphasizes controlled redevelopment, leasing, and program income tied to retaining public ownership.

NJ Transit controls approximately 8,000 acres of property, with much of it located near stations, rights-of-way, and maintenance facilities. The LAND Plan explicitly identifies underutilized parcels as opportunities for transit-oriented development, industrial uses, renewable energy generation, wetland mitigation, parking optimization, and commercial concessions. NJ Transit estimates that over the next 30 years, transforming these underused parcels could generate approximately \$1.2 to \$1.9 billion in incremental revenue to the agency, alongside broader statewide economic, environmental, and housing benefits (New Jersey Transit, 2025).

What distinguishes the LAND Plan from prior TOD efforts is its comprehensive and programmatic framing. Rather than focusing solely on housing or mixed-use developments adjacent to stations, the plan presents a portfolio approach that aggregates multiple diverse revenue streams. These include long-term ground leases for development, industrial-hub development on large, flat parcels, expanded retail concessions, market-based parking, solar installations, and wetland banking on environmentally suitable land (New Jersey Transit, 2025). By bundling these opportunities into a single strategic framework, NJ Transit treats asset monetization as an institutional function rather than a peripheral activity. The LAND Plan also understands and acknowledges institutional constraints. The document emphasizes that proposed actions are options rather than mandates, explaining that implementation depends on collaboration with municipalities, the legislature, and other state agencies.

Within the LAND Plan, projections are presented as incremental and long-term, with implementation phased over five- to ten-year intervals. The plan avoids positioning asset monetization as a substitute for operating subsidies or capital funding. Instead, non-farebox revenue is framed as a stabilizing supplement that can improve financial resilience, support capital programs, and reduce pressure on fares during periods of ridership volatility (New Jersey Transit, 2025). The LAND Plan also underscores the importance of internal capacity. Beyond external legislative changes, NJ Transit identifies the need to strengthen internal governance, prioritize development opportunities, and modernize project-delivery processes. This emphasis reflects an implicit recognition that asset monetization is as much an organizational challenge as a financial one. Managing land, development partnerships, and long-term leases requires different skill sets and decision frameworks than traditional rail operations.



NJ Transit, 2025

TRANSLINK'S COMMUNICATION STRATEGY AND PUBLIC TRUST

TransLink is the regional transportation authority for Metro Vancouver, responsible for planning, funding, and delivering multimodal transit services, including bus, SkyTrain (metro rail), and West Coast Express commuter rail across a multi-jurisdictional metropolitan area (TransLink, 2026). TransLink's customer experience planning treats communication as an operational priority that extends beyond disruption alerts. In its multi-year frameworks, communication stands alongside reliability, frequency, safety, and comfort as a system-wide objective (TransLink, 2026). The agency's goals include making trip information easy to access across transit modes; ensuring consistent messaging across channels in both routine operations and service changes; and using customer feedback to refine messages and tools over time. This framing signals that communication is part of how service quality is delivered.

TransLink uses a range of channels to support its communications goals. Central trip planning tools and websites integrate service information with alerts and updates that are increasingly optimized for mobile use and accessibility. Real-time displays and messaging at stations and stops help reduce uncertainty for riders before and during trips. A robust contact center complements digital tools by providing live support for route and service questions. Social media platforms serve both as alert systems and engagement spaces where riders can ask questions, receive updates, and provide feedback (Applied, 2026).

TransLink's approach links information delivery to broader customer outcomes. Structured action plans include formal messaging strategies and technology investments that automate and standardize alerts across platforms, improve wayfinding, and strengthen station communications. The agency also uses systematic feedback mechanisms to collect rider input and adjust communication practices over time. This integration of feedback loops into operational planning helps ensure that information reflects customer priorities and experience patterns (TransLink, 2026).

Research on public communication suggests that open and accessible information builds trust in institutions by making performance and decision-making more transparent and accountable (Center for Digital Government, 2010). Public communication that incorporates timely, relevant, and clear information can reinforce perceptions that government bodies are responsive to citizen needs and concerns, which in turn supports confidence in those organizations and their policies. Public bodies that convey information in a trustworthy way can strengthen citizen trust, which research links to greater willingness to support public policies and fiscal measures over time (Center for Digital Government, 2010).

For a transit agency, this dynamic matters in practice. Riders who understand how services are planned, funded, and delivered are more likely to feel that public resources are being managed well. Clear communication about capital programs, service changes, and performance measures reduces uncertainty and signals accountability. This transparency can help shape broader public perceptions that tax dollars and fare revenues are being used effectively. This positive public perception is beneficial when agencies seek public support for funding initiatives, whether through tax measures, fare adjustments, or bond referendums, an established track record of accessible communication can increase the likelihood that taxpayers view those proposals as reasonable investments rather than unexplained costs.



TransLink, 2025

🔍 TRINITY RAILWAY EXPRESS AND JOINT INSTITUTIONAL DELIVERY

The Trinity Railway Express (TRE) is a commuter rail route connecting downtown Dallas and downtown Fort Worth along a shared regional corridor in North Texas (Fuller, 2025). The system represents an institutional innovation in how commuter rail service can be jointly delivered and financed without creating a standalone regional rail authority. TRE is owned and governed equally by Dallas Area Rapid Transit and Trinity Metro, with both agencies sharing responsibility for funding, oversight, and strategic decisions (Fuller, 2025). Rather than consolidating governance, the partners rely on a formal interlocal structure that allocates authority and costs across agencies with distinct service areas but a shared regional travel market.

Operating and maintenance costs are split evenly between the two agencies, avoiding complex allocation formulas based on ridership, service mileage, or jurisdictional boundaries (Fuller, 2025). This structure reduces administrative friction and eliminates recurring disputes over benefit attribution. By establishing parity in financial responsibility, the model aligns incentives around service quality, cost control, and long-term sustainability. TRE also demonstrates how shared governance can be paired with contracted operations to manage institutional risk. Day-to-day rail operations are delivered by external operators, while the partner agencies retain control over funding, contracts, and service policy (Trinity Metro, 2021). This allows DART and Trinity Metro to function as joint program managers rather than direct operators, limiting exposure to operational volatility while preserving public accountability (Trinity Metro, 2021).



Trinity Railway Express, 2025

SYNTHESIS AND IMPLICATIONS FOR MARC

The supplemental examples highlight forms of institutional innovation that complement the primary case studies. These supplemental practices illustrate how agencies expand capacity and build political support within the constraints of existing institutions. Across New Jersey Transit, TransLink, and the Trinity Railway Express, the common thread is not the creation of new revenue sources alone, but the deliberate use of organizational design, communication, and coordination to stabilize funding, manage risk, and sustain public confidence.

New Jersey Transit's LAND Plan demonstrates how asset monetization can be reframed as a long-term institutional function rather than a project-specific or opportunistic strategy. The plan's emphasis on public ownership, incremental revenue, and phased implementation underscores an important limitation that is often underappreciated in discussions of value capture. Asset-based revenue is most effective as a stabilizing supplement to core funding, not as a replacement for operating subsidies or capital appropriations. By treating land, advertising, parking, and ancillary assets as part of a coordinated portfolio, NJ Transit expands its fiscal toolkit while explicitly managing expectations about scale, timing, and risk. This approach is especially relevant for legacy commuter rail systems that face high fixed costs and limited flexibility.

TransLink's communication strategy highlights a different but equally important dimension of institutional capacity. By embedding communication into multi-year customer experience plans and treating it as a core service function, TransLink directly connects the value of information delivery to system performance and public trust. The agency's emphasis on clarity, consistency, accessibility, and feedback reflects a broader understanding that riders experience transit not only through service frequency or reliability, but through the quality of information that accompanies those services. Research on open government communication reinforces this connection, suggesting that transparent and accessible information strengthens public confidence and increases willingness to support public policies and fiscal measures. In this context, communication functions as a form of enabling infrastructure. It shapes how the public evaluates the use of tax dollars and fares, and it conditions the political feasibility of future funding requests.

The Trinity Railway Express illustrates a third form of innovation rooted in institutional coordination. Trinity's joint governance and equal cost-sharing model shows how commuter rail can operate across jurisdictions without consolidation into a single authority. By simplifying cost allocation and formalizing shared decision making, the model reduces administrative friction and limits the risk of cost shifting across partners.

For MARC, TRE's relevance lies in its demonstration that multi-jurisdictional commuter rail can be governed through clear cost-sharing rules and formalized collaboration rather than through the creation of a new authority. MARC similarly operates across political boundaries with multiple stakeholders and funding sources. Utilizing a model similar to TRE could be imperative for future expansion in Virginia and Delaware. Such an approach would support the management of operational complexity while preserving local accountability across participating jurisdictions.

Viewed together, these examples reinforce a broader lesson for MTA. Expanding commuter rail capacity is not solely about identifying new funding sources or adopting a particular governance model. It also depends on how agencies organize themselves to manage assets, communicate with the public, and coordinate across institutional boundaries. Even within Maryland’s existing governance framework, targeted reforms in asset management, communication, and interagency coordination can expand the range of feasible options for long-term growth. These supplemental examples, therefore, inform not only which funding tools to pursue but also how MARC positions itself to sustain public and political support.



Maryland Transit Administration, 2017

POLICY RECOMMENDATIONS

This section presents a prioritized and sequenced set of recommendations to support MARC expansion within the constraints of its current governance, funding environment, and institutional capacity. The recommendations are not intended as a comprehensive list of funding tools, but as a focused set of actions that MARC can realistically pursue over time. Near-term recommendations emphasize steps that can be implemented within the existing MDOT MTA framework to strengthen revenue generation, asset management, and organizational readiness. Medium- and longer-term recommendations build on this foundation and draw on practices used by peer passenger rail agencies, recognizing that sustained expansion will require incremental institutional change, coordination across agencies, and careful management of financial and political risk.



Maryland Transit Administration, 2025

A. NEAR-TERM ACTIONS

1

STANDARDIZE THE JOINT DEVELOPMENT PROCESS AND REQUIRE TRANSIT CONTRIBUTIONS

Creating a standardized joint development and station delivery model will improve MTA functions. This process is necessary because MARC station projects and development on state-owned rail property are currently negotiated largely on a project-by-project basis. The current practice places a heavy burden on staff, extends timelines, and limits MTA's ability to scale joint development as a funding and delivery tool. While MTA is responsible for MARC operations, station functionality, and capital delivery, transit-oriented development and joint development on state-owned property in Maryland are administered through the Maryland Department of Transportation's Office of Real Estate and Economic Development. Effective standardization therefore requires a coordinated framework in which MDOT leads real estate disposition and developer procurement, and MTA defines the transit-specific requirements that govern how development interfaces with stations, service, and long-term asset management.

Currently, station reconstruction, structured parking, and mixed-use proposals often require customized legal and financial structuring to renegotiate core terms for each transaction, increasing costs and constraining the number of projects that can move forward at the same time. A standardized joint development process, jointly defined by MDOT and MTA, would introduce predictability for counties, municipalities, and private partners while ensuring that transit requirements are applied consistently across projects.

Under this approach, MDOT would continue to manage ground leasing, air rights, and developer solicitations, while MTA would establish standardized transit-related requirements tied to MARC operations and capital assets. These would include baseline expectations for service continuity, long-term asset control, construction phasing, and integration with station facilities.

MTA should also define minimum expectations for transit contributions associated with development on MTA-controlled or MTA-served sites, ensuring that the value created by public land and transit investment is systematically reinvested in the rail system.

Development on state-owned rail property derives significant value from public transit investment. To better capture that value, MTA and MDOT should establish clear and transparent expectations that joint development projects contribute directly to the transit asset. Contributions may include funding for or delivery of station reconstruction, ADA improvements, bus facilities, structured parking, access upgrades, or other defined capital elements that support MARC service and ridership. Making these expectations explicit and consistent across projects reduces uncertainty for developers and avoids renegotiating public benefits on a case-by-case basis.

This approach is consistent with practices observed in Connecticut’s redevelopment of the Stamford Transportation Center, where the Connecticut Department of Transportation conducted a competitive solicitation to engage private partners capable of advancing transit-oriented development alongside the delivery of a modernized transit facility. By establishing a clear procurement framework and requiring proposers to address both development and transit facility needs, CTDOT demonstrated how public agencies can leverage real estate value to support transportation infrastructure through a negotiation framework.

For MTA, the primary benefit of this coordinated, standardized approach is institutional and fiscal. A repeatable joint development process allows multiple projects to move forward in parallel, strengthens internal capacity, and improves coordination across MDOT, local governments, and the private sector. More importantly, it reframes joint development as a deliberate strategy to support station delivery, state of good repair, and long-term system investment, rather than as an opportunistic real estate-driven activity.

MDOT, 2025

Description – A 3-D rendering of the proposed station redevelopment of the Bowie State MARC station to deliver a community-centered project that expands affordable housing, unlocks long term economic development, improves connectivity, and enhances access to transit.



2 OPTIMIZE ADVERTISING AND SPONSORSHIP ACROSS MARC ASSETS

Optimizing advertising and sponsorship across MARC assets is a near-term value capture action that fits cleanly within MTA's existing procurement authority and operational structure. MARC stations, platforms, parking facilities, rolling stock, and digital channels already generate rider and non-rider exposure, yet advertising use across these assets remains underutilized. A coordinated approach would focus on establishing contracts, standardizing ad formats across the MARC system, and expanding digital and mobile advertising where appropriate. This recommendation does not require new legislation, fare changes, or new taxes. Its feasibility rests on improved contract management and clearer internal expectations about how advertising revenue is used, such as supporting station maintenance, customer amenities, or small capital upgrades that would otherwise compete for limited funds.

This recommendation is grounded in practices used by the Massachusetts Bay Transportation Authority (MBTA), which treat advertising and sponsorship as professionally managed but limited revenue sources. The MBTA relies on competitive procurement, updated advertising formats, and systemwide consistency to maximize returns while avoiding overreliance. Advertising is positioned as a stable supplemental stream that can offset discrete costs without distorting the broader funding strategy. For MTA and MARC operations, the central lesson is one of expectation management. Advertising can improve reliability and reduce marginal budget pressure, but overstating its revenue potential risks undermining credibility and diverting attention from the need for sustained public investment in rail service.

MBTA, 2024

Description – MBTA light rail vehicle featuring a full exterior commercial wrap, illustrating how transit agencies use vehicle advertising to generate supplemental revenue through corporate sponsorship and brand placement.



3

**ADOPT A RIDERSHIP DEVELOPMENT STRATEGY
THAT TREATS FARE POLICY AS A LONG-TERM INVESTMENT**

Adopting a ridership development strategy that positions fare policy as a long-term investment aligns with the MTA's broader objectives for system performance, public value, and sustained political support for rail service. While MARC relies more heavily on fare revenue than some peer agencies, MTA retains the flexibility to use targeted fare programs as tools to expand the rider base rather than solely to maximize short-term revenue. Institutional pass programs with large employers, universities, and government agencies are well-suited to MARC's commuter-oriented service pattern and regional labor markets.

This recommendation is informed by the experience of the Utah Transit Authority, where fare policy functions primarily as a ridership development mechanism rather than a revenue driver. Because UTA's operating budget is largely supported by sales tax revenue, the agency has been able to prioritize universal access programs, student passes, and employer partnerships to normalize transit use and build long-term public and political support. While MARC operates in a more fare-dependent funding environment, the underlying lesson remains applicable. Utah's experience demonstrates that strategically designed fare policies can improve ridership stability, strengthen cost-effectiveness metrics, and reinforce the case for continued public investment. For the MTA and MARC, the value of this approach lies not in immediate revenue gains, but in building a resilient rider base that will generate future revenue and help justify future investment.



Maryland Transit Administration, 2007

4

FORMALIZE AN MTA ASSET AND STATION PORTFOLIO FOR A VALUE CAPTURE STRATEGY

Formalizing an asset and station portfolio strategy at the MTA level aligns directly with the agency's existing ownership, governance, and capital planning responsibilities. While MARC service operates across multiple jurisdictions, stations, parking facilities, and adjacent state-owned parcels are ultimately managed within MTA's broader asset and real estate framework.

Currently, these assets are addressed on a project-by-project basis, often in response to external development proposals or local government initiatives. Establishing a formal portfolio strategy would allow MTA to systematically categorize assets based on operational importance, redevelopment potential, and long term revenue suitability. This strategy would set up state-owned land for value capture roles. Implementing this recommendation would also help to clarify internal roles, improve coordination with counties and municipalities, and ensure that asset decisions reinforce service reliability, station access, and systemwide capital priorities rather than isolated revenue opportunities.

This recommendation is informed by New Jersey Transit's LAND Plan, which treats land, stations, parking assets, and ancillary facilities as a managed portfolio rather than discrete development projects. NJ Transit's approach demonstrates that asset monetization is most effective when embedded as a core institutional function, with explicit constraints around public ownership, operational needs, and community impacts. The LAND Plan avoids framing asset revenue as immediate or transformative and instead emphasizes incremental, program-level benefits realized over long time horizons. For the MTA, the relevance of this example lies in the governance model. A portfolio approach provides institutional clarity, reduces transaction costs, supports coordination with local partners, and positions the MTA to leverage its assets and capture modest but stable long-term value.

5 INSTITUTIONALIZE A MARC COMMUNICATION FRAMEWORK LINKED TO CAPITAL DELIVERY AND PERFORMANCE

Institutionalizing a formal communication framework for MARC aligns with the MTA's responsibility to demonstrate accountability for service delivery, capital investment, and system performance. Communication related to MARC service is often reactive and event-driven, focused on disruptions or isolated project announcements rather than on explaining how day-to-day operations, capital programs, and performance outcomes fit together. As MARC expansion accelerates, this approach becomes increasingly limiting. Establishing a structured, systemwide communication framework would allow MTA to consistently explain service changes, capital timelines, and performance metrics in a way that is accessible to riders, local governments, and state decision makers. This recommendation does not require new authority or significant capital investment, but rather clearer internal alignment between planning, capital delivery, and public-facing communication.

This recommendation is informed by the experience of TransLink, where customer experience and communication frameworks are treated as core operational functions rather than as ancillary activities. TransLink connects communication directly to service reliability, capital investment decisions, and performance reporting, shaping how riders and the public understand the use of public funds over time. The relevance for the MTA and MARC lies in the political and institutional effects of this approach. Research on public-sector transparency suggests that consistent, credible communication strengthens public trust and increases willingness to support fiscal measures. For MARC, communication serves as an enabling factor that shapes the political feasibility of future funding initiatives by reinforcing accountability and reducing uncertainty about how expansion investments are planned, delivered, and evaluated.



Maryland Transit Administration, 2013

B. MEDIUM-TERM REFORMS

6 ESTABLISH LIMITED REVENUE RETENTION AUTHORITY FOR MARC-GENERATED REVENUES

Establishing limited revenue retention authority within MTA for MARC-generated revenues would strengthen capital planning and asset management while remaining consistent with Maryland's existing governance framework. Under current practice, revenues generated by MARC assets, including leases, parking, advertising, and other ancillary sources, are deposited into the centralized Transportation Trust Fund. While this approach supports systemwide flexibility, it weakens the connection between MARC asset management decisions and long-term reinvestment in stations and supporting infrastructure. Allowing MTA to retain certain MARC-related revenues would create a clearer link between asset performance and capital outcomes.

A counterargument to revenue retention is that the Transportation Trust Fund's strength lies in its diversity. The Trust Fund aggregates revenues from multiple sources and modes, helping stabilize funding during economic downturns or ridership shocks such as those experienced during the COVID-19 pandemic. Isolating revenues at the program level can expose individual services to volatility that the broader fund is designed to absorb. A related concern is the use of farebox revenue. Fare revenues primarily support operations and fluctuate with ridership, making them an unstable and unsustainable source for capital investment or debt service.

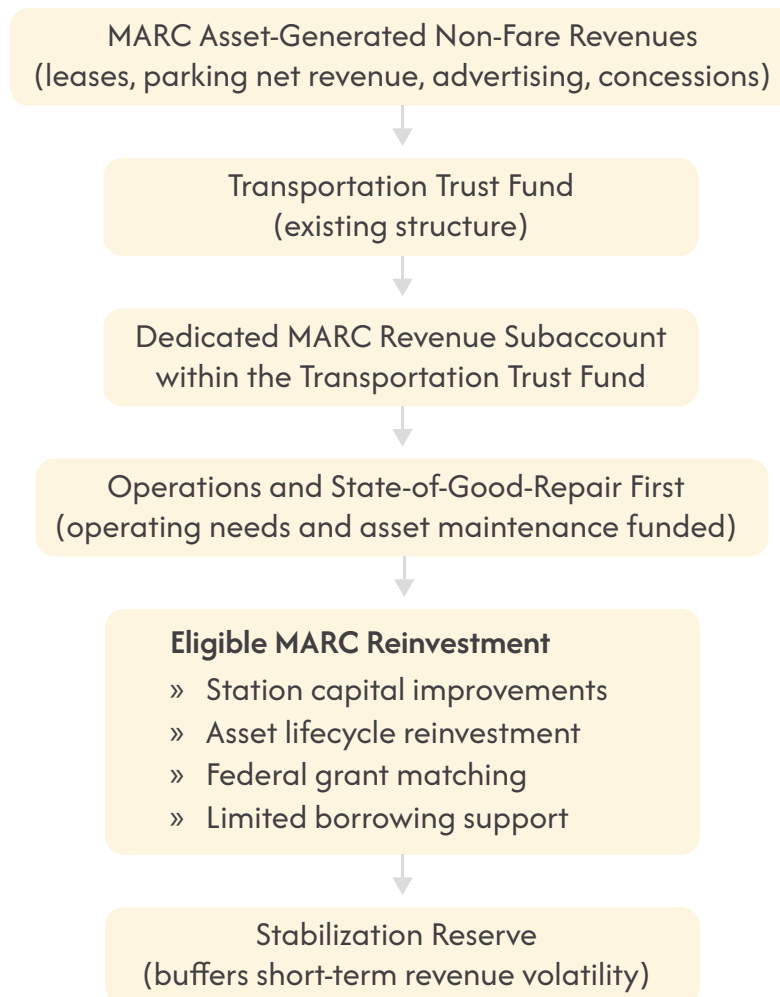
For the MTA, these concerns are heightened by existing obligations on transit fare revenues. Under current financing arrangements, transit fare revenues are committed to support Purple Line payment obligations until its fare revenues mature (Shaver, 2016). This structure further limits the availability of farebox revenue for MARC-specific reinvestment and underscores the risk of relying on fare revenues for capital purposes.

These considerations reinforce the need for careful design. Revenue retention authority for MARC should therefore be narrowly scoped and subordinate to operations, rather than treated as a general carve-out from the Transportation Trust Fund. Retention should focus primarily on non-fare, asset-based revenues such as ground leases, parking-related net revenues, advertising, and other ancillary income generated by MARC facilities. Farebox revenue should continue to be prioritized for operating needs and should not be pledged for capital or borrowing.

To preserve the stabilizing function of the Transportation Trust Fund, retention authority could be structured as a dedicated MARC subaccount within the Trust Fund, subject to existing reporting and oversight requirements. Statutory guardrails should require that operations and state-of-good-repair obligations are fully funded before retained revenues are applied to capital reinvestment, federal matching requirements, or limited borrowing support. MTA should also maintain a modest stabilization reserve within the retained revenue framework to buffer against short-term revenue volatility.

Experience in other states demonstrates the value of this approach. The Virginia Passenger Rail Authority and the Utah Transit Authority both retain system-generated revenues within defined frameworks that support multi-year capital planning and disciplined investment sequencing without relying on farebox volatility. The lesson for Maryland is not one of scale, but of structure. Even modest, well-designed retention authority can improve responsiveness, strengthen capital planning, and reduce reliance on annual appropriations while preserving fiscal stability and legislative oversight. Revenue retention should be understood not as a replacement for stable funding through the Transportation Trust Fund, but as a prerequisite for limited, rail-specific borrowing by establishing defined, non-fare revenue streams that can support targeted capital investments without increasing fiscal risk.

REVENUE RETENTION FLOW CHART



7 AUTHORIZE RAIL-SPECIFIC BORROWING TIED TO DEFINED REPAYMENT SOURCES

Authorizing limited, rail-specific borrowing authority within MTA would allow debt to function as a capital sequencing tool for MARC rather than a source of fiscal exposure. Consistent with the revenue retention framework described above, borrowing should be narrowly scoped, asset-specific, and explicitly tied to defined, non-fare repayment sources. This approach would allow MTA to advance priority corridor investments earlier in the capital program while aligning debt service with the beneficiaries of those investments. A key risk associated with borrowing is the erosion of fiscal stability when debt is supported by volatile or operationally critical revenues. To avoid this risk, borrowing should rely on retained, asset-based revenues or dedicated local contributions that are clearly identified at the time of issuance.

To preserve the stabilizing role of the Transportation Trust Fund, borrowing authority should be structured within existing oversight and approval processes. Debt issuance should be subordinate to statewide transportation obligations, capped in size, and contingent on predictable repayment streams and a defined capital use. This approach draws on the experience of the Virginia Passenger Rail Authority, which uses borrowing as a deliberate sequencing mechanism within a long-term capital framework rather than as a substitute for stable funding. VPRAs authority is structured to ensure that debt issuance is aligned with defined capital plans and supported by dedicated revenues, allowing projects to move forward when they are most cost-effective rather than waiting for full pay-as-you-go funding to accumulate. Importantly, borrowing remains one tool within a broader financing strategy, subject to clear limits and oversight.

For the MTA and MARC, a similarly constrained borrowing authority would enhance capital flexibility without undermining fiscal discipline or legislative control. When paired with limited revenue retention, rail-specific borrowing can accelerate high-priority investments, reduce exposure to construction cost escalation, and improve capital delivery timing.

8 CREATE A LOCAL VALUE CAPTURE FUND TIED TO TRANSIT-INDUCED PROPERTY VALUE GROWTH

Creating a Local Value Capture Fund tied to transit-induced property value growth would provide a durable, beneficiary-aligned way to support MARC capital investment while preserving existing state and local fiscal roles. Under this model, counties served by MARC would contribute a defined share of incremental property tax revenue reasonably attributable to rail investment to a dedicated fund used exclusively for MARC capital and station-area improvements. This mechanism would not alter the county taxing authority or impose new taxes. Instead, it formalizes a predictable contribution tied to realized value gains from improved rail access, service frequency, and station investment.

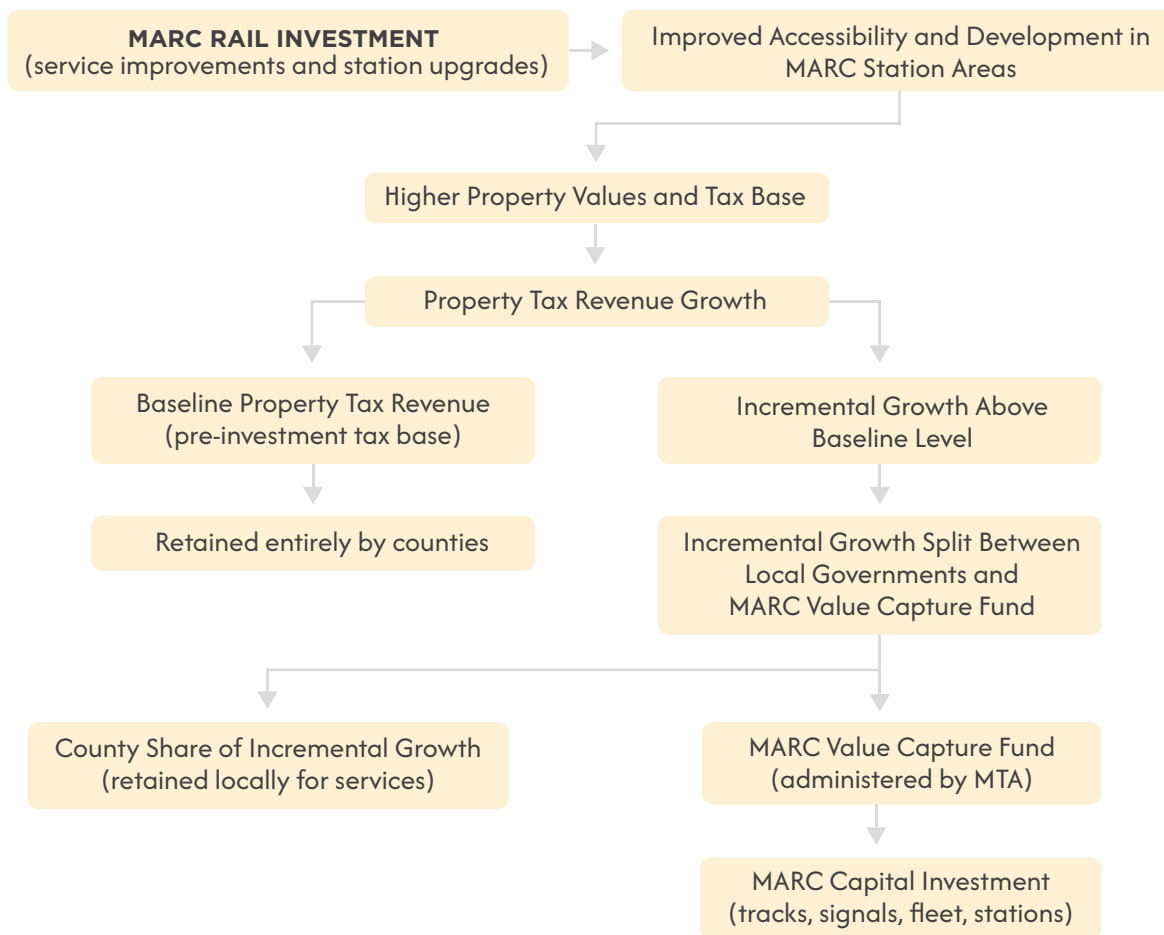
Because contributions are tied to incremental growth above a baseline, the Local Value Capture Fund functions as a value-capture mechanism, similar in effect to a special assessment district or a land value tax, without requiring parcel-level assessments or new levies. The incremental revenues deposited into the Fund could also serve as the underlying revenue source for tax increment financing (TIF) mechanisms, allowing future growth in property tax receipts within defined station areas or corridors to support upfront infrastructure investment and, where appropriate, repay bonds issued for MARC-related capital improvements.

For MTA, the Local Value Capture Fund would create a stable, performance-linked revenue source that supports long-range capital planning and reduces reliance on episodic state appropriations. By tying contributions to incremental growth rather than baseline tax revenue, the model preserves county budget flexibility while reinforcing the connection between local land-use outcomes and regional rail investment. This approach aligns with ongoing local policy discussions in Maryland about how to fund growth-related infrastructure. Montgomery County's Infrastructure Funding Workgroup is actively evaluating new strategies to fund transportation and other infrastructure needs associated with development and population growth, reflecting growing recognition that traditional revenue sources are insufficient to meet long-term capital needs (Montgomery County, 2025).

Peer systems provide institutional precedent for linking transit investment to local value realization. The Massachusetts Bay Transportation Authority's municipal assessment framework demonstrates how local governments can contribute to regional transit based on shared benefit rather than project-by-project negotiation. The Utah Transit Authority's reliance on locally generated revenues illustrates how sub-state funding streams can stabilize capital programs and reinforce local ownership of transit outcomes. New Jersey Transit's emphasis on coordinating rail investment with land-use and development outcomes further underscores the importance of capturing value where it accrues rather than dispersing costs across unrelated taxpayers. While none of these systems employ an identical fund structure, together they demonstrate how beneficiary-based contributions can support transit investment.

The strength of the Local Value Capture Fund lies in its balance of equity, feasibility, and political durability. Contributions occur only as value materializes, protecting jurisdictions during economic downturns and avoiding penalties for areas without development pressure. Counties retain incentives to support station-area planning, zoning, and complementary infrastructure that enhance MARC ridership and performance. At the same time, a centralized fund avoids the administrative complexity and uneven outcomes associated with parcel-level value capture tools. For MARC, this structure provides a scalable funding platform that grows alongside the system and strengthens the long-term case for sustained investment.

LOCAL VALUE CAPTURE FUND



C. LONG-TERM STRATEGY

9 EVALUATE RESTRUCTURING MTA INTO A UTILITY-STYLE COMMUTER RAIL AUTHORITY

Evaluating the potential restructuring of the MTA into a utility-style commuter rail authority represents a long-term governance option for addressing structural constraints that limit the MTA's ability to plan, finance, and deliver major rail investments. Under a utility-style model, responsibilities for rail planning, asset ownership, revenue retention, and borrowing authority would be consolidated within a single entity with a defined service mandate and funding framework. Such a structure would better align costs, revenues, and accountability, reducing fragmentation across modal and geographic lines that currently complicates multi-year capital planning.

A central element of this model would be governance reform. Shifting the authority out of direct gubernatorial control and into a board-led structure with representation from the state and participating local jurisdictions would reduce political volatility and improve long-term decision stability. A more independent governance framework also creates clearer pathways for direct local participation in funding, including county or regional contributions tied to service benefits. For Maryland, this recommendation is not framed as an immediate reorganization proposal, but as a strategic evaluation pathway that builds on incremental institutional reforms pursued in earlier recommendations.

This recommendation is grounded in both peer experience and current legislative analysis within Maryland. The experience of the Virginia Passenger Rail Authority demonstrates how consolidating passenger rail capital planning and asset management into a single authority can improve capital sequencing, revenue management, and accountability. In Virginia, VPRA is structured as a capital-focused entity, responsible for rail infrastructure investment, service expansion, and coordination with operating partners, rather than direct service operations. That restructuring followed sustained state investment, the establishment of dedicated funding sources, and a clear political commitment to passenger rail as a core public service.

The experience of the Massachusetts Bay Transportation Authority offers a complementary model in which both capital planning and service operations are housed within a single utility-style transit authority. The MBTA's structure allows it to integrate long-term capital investment decisions with operating considerations, fare policy, and service delivery, while maintaining a governance framework that includes state oversight and regional stakeholder representation. Together, the VPRA and MBTA illustrate two viable institutional pathways.

In Maryland, similar structural questions are already under formal review. In 2025, the Maryland General Assembly passed House Bill 517, which established the Workgroup on the Reorganization of the Maryland Transit Administration to evaluate governance options, assess costs and benefits, and analyze impacts on funding and federal compliance (Maryland Department of Legislative Services, 2025).

The bill reflects legislative recognition that the current MTA structure presents limitations for long-range planning, revenue flexibility, and risk management, particularly for rail services that operate across local and regional boundaries.

The primary value of a utility-style authority lies in long-term institutional capacity rather than short-term financial gain. Consolidation can clarify decision-making authority, enable disciplined use of debt tied to stable revenue streams, and improve transparency around performance and investment outcomes. However, peer experience also cautions against premature restructuring. In Virginia, governance reform followed demonstrated institutional readiness, including defined revenue sources, a mature capital program, and broad stakeholder alignment. For Maryland, this suggests that restructuring should be sequenced after progress on nearer-term actions such as revenue retention, asset portfolio management, standardized project delivery, and performance-linked communication. A utility-style commuter rail authority should therefore be viewed as a capstone option, building on institutional credibility and capacity rather than attempting to substitute for them.



MDOT, 2025

10 ALIGN FUNDING TOOLS WITH PHASED CORRIDOR EXPANSION

Aligning funding tools with clearly defined phases of corridor expansion would allow the MTA and MARC to better match financial instruments to the scale, risk profile, and timing of individual investments. Under this approach, early-stage planning and service optimization would rely on flexible, low-risk funding sources, while later phases of corridor expansion would deploy more structured tools tied to defined assets and repayment streams. This sequencing recognizes that not all expansion activities require the same financial treatment. By explicitly linking funding mechanisms to phases such as planning, station upgrades, service frequency increases, and major capital construction, the MTA can reduce fiscal risk while improving capital efficiency and delivery discipline across the MARC system. While the MARC Growth and Transformation Plan lays out phased expansion, it does not explicitly align funding and financing tools to project maturity, leaving an opportunity to strengthen fiscal discipline and delivery sequencing.

This recommendation is informed by the experience of the Virginia Passenger Rail Authority and the Utah Transit Authority, both of which structure investment around phased implementation rather than treating expansion as a single capital event. In Virginia, VPRA deploys pay-as-you-go funding, retained revenues, and debt selectively based on project maturity, allowing corridors to advance incrementally while maintaining alignment between benefits and repayment obligations. Utah's approach similarly matches funding sources to investment stage, using stable local revenues to support early service growth and reserving higher-commitment tools for projects with demonstrated demand and political support. For the MTA and MARC, durable expansion depends not on the availability of any single funding source, but on the strategic deployment of multiple tools over time in ways that reflect project readiness, institutional capacity, and long-term system performance.

CONCLUSION

The MARC Growth and Transformation Plan articulates a clear and compelling vision for expanding Maryland's commuter rail system into a more frequent, reliable, and regionally integrated service. The Plan's projected economic benefits, ridership growth, and travel time improvements provide a strong justification for long-term investment. At the same time, the Plan is explicit about its central challenge: the scale of required capital and operating investment far exceeds existing federal, state, and agency-level funding resources. This study set out to evaluate how that gap might be addressed in practice, drawing on both the academic literature on transit finance and comparative evidence from peer passenger rail systems.

The literature review establishes that this challenge is not unique to Maryland. Over several decades, the erosion of predictable federal transportation funding has forced transit agencies to operate in an increasingly uncertain fiscal environment. In response, agencies have pursued a wide range of innovative funding and financing mechanisms, including value capture tools, public-private partnerships, and green bond financing. The literature consistently finds that these mechanisms can provide important supplemental resources, improve risk allocation, and support capital delivery, but rarely function as standalone solutions. Value capture tools are sensitive to market conditions and timing. Public-private partnerships depend heavily on institutional capacity and project structure. Green bonds require clear environmental benefits and sustained reporting capacity. Across these tools, the research emphasizes that institutional design and revenue control matter as much as the tools themselves.

The case studies reinforce this conclusion. Connecticut, Massachusetts, Virginia, and Utah each operate within the same federal funding environment, yet their ability to plan, finance, and deliver passenger rail investment varies significantly. These differences are not driven by any single funding source, but by how authority, revenue, assets, and risk are organized within each system.

Connecticut demonstrates how a centralized state DOT can advance rail investment through strong capital planning, bonding, and federal grant leveraging, even in the absence of rail-specific revenue retention or borrowing authority. Innovation in Connecticut occurs primarily through delivery models, joint development, and contract structure rather than through financial autonomy. This approach improves efficiency and risk management but limits the pace and scale of expansion when rail must compete with other statewide transportation priorities.

Massachusetts illustrates a hybrid model. The MBTA owns its assets and oversees commuter rail service, yet remains constrained by state-controlled revenue streams, municipal assessments, and persistent operating pressures. As a result, the MBTA has relied on asset monetization, private participation in station delivery, and exploration of institutional reforms such as the Infrastructure Company concept to manage risk and modernize infrastructure. These efforts demonstrate institutional adaptability, but also underscore the limits of organizational innovation when core funding remains externally controlled.

Virginia represents a more structurally transformative approach. By creating a rail-specific authority with dedicated funding, revenue retention, borrowing authority, and ownership of key corridors, the Commonwealth has aligned governance with long-term passenger rail objectives. VPRA's model allows borrowing to function as a sequencing tool rather than a fiscal liability, and enables corridor-level planning that integrates intercity and commuter rail service. While Virginia's approach requires sustained political commitment and careful risk management, it demonstrates how institutional consolidation can expand the feasible range of investment options.

Utah provides a contrasting regional model in which locally enacted sales taxes form the backbone of transit funding. This structure reduces reliance on fare revenue, stabilizes operating budgets, and allows fare policy to function as a ridership development tool rather than a primary revenue source. Utah's integration of land use planning, asset management, and capital investment further illustrates how predictable revenue enables agencies to align economic development, ridership growth, and long-term system performance.

Across these cases, several consistent patterns emerge. First, no system relies on a single innovative funding tool to support passenger rail expansion. Instead, durable investment depends on a combination of public funding, retained revenues, borrowing capacity, and asset management strategies deployed over time. Second, institutional authority and revenue control are decisive. Agencies with retained, predictable revenues and clear capital authority are better positioned to manage risk, sequence investment, and align funding tools with project maturity. Third, asset ownership alone does not guarantee expansion capacity. Ownership is most effective when paired with revenue retention and decision-making authority. Finally, institutional design, including contract structure, governance, and communication practices, plays a critical role in sustaining public trust and political support for long-term investment.

The supplemental examples reinforce these findings. New Jersey Transit's LAND Plan demonstrates how asset monetization can be institutionalized as a long-term portfolio strategy rather than treated as a series of one-off development projects. TransLink's communication framework highlights the role of transparency and information in building public confidence and shaping the political feasibility of funding initiatives. The Trinity Railway Express illustrates how formalized interagency coordination and cost sharing can support multi-jurisdictional commuter rail without creating a new authority. These examples do not replace the need for stable funding, but they show how organizational capacity can expand what is achievable within existing constraints.

Taken together, the literature and case evidence suggest that the primary question facing MARC is not whether innovative tools exist, but how they can be sequenced and governed within Maryland's institutional context. The recommendations presented in this paper reflect that insight. Near-term actions focus on strengthening internal capacity, standardizing delivery, and capturing modest supplemental revenue within existing authority. Medium-term reforms emphasize revenue retention, targeted borrowing, and beneficiary-based contributions that improve planning flexibility without undermining oversight.

Long-term strategies acknowledge that more fundamental governance reform may eventually be necessary, but only after institutional readiness and political alignment have been established.

The MARC Growth and Transformation Plan provides a strong technical foundation for expansion. The challenge now is to pair that vision with a financial and institutional framework capable of sustaining it over multiple decades. The experience of peer agencies shows that this can be done incrementally, through deliberate alignment of funding tools, governance structures, and public accountability. For Maryland, advancing MARC expansion will require not a single solution, but a disciplined strategy that treats finance, institutions, and public trust as interconnected components of long-term system success.



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MARC

APPENDIX A

INTERVIEW QUESTIONS

1. What stands out to you as (Agency's) biggest opportunities and challenges in funding future rail expansion?
2. How do you see the relationship between rail investment and broader economic or community development in the state?
3. When thinking about innovative financing tools, what kinds of approaches feel most promising, and why?
4. What role should local governments and communities play in shaping how rail projects are funded and delivered?
5. How can transit agencies better leverage the benefits of transit-oriented development to capture value that helps support both capital and operating costs?
6. In your view, what lessons from other states or countries might be most useful as (Agency) considers its funding options?
7. Looking ahead, what combination of traditional and new funding strategies could create the most stable foundation for long-term rail investment?

APPENDIX B

ESTIMATED REVENUE GENERATION OF RECOMMENDED STRATEGIES

This appendix estimates the potential revenue generation and economic impacts associated with the ten recommended funding and governance strategies identified in this report. Estimates are derived from observed funding practices implemented by peer rail agencies examined in the case study analysis. These projections represent planning-level ranges rather than precise forecasts and are intended to illustrate the scale of potential financial outcomes under comparable implementation conditions.

The estimated revenue and financing ranges presented in this appendix should be interpreted as preliminary planning-level approximations rather than formal financial forecasts. Developing fully validated projections would require detailed financial modeling, corridor-specific land use analysis, and agency-level budget simulations that extend beyond the scope of this research. A comprehensive comparative financial analysis across peer commuter rail agencies represents a valuable opportunity for future research and would allow for more precise modeling of long-term fiscal impacts.

The estimates included here were developed using data and institutional examples drawn primarily from governance and funding practices identified in the case study analysis. They are intended to illustrate the potential scale and directional impact of each recommendation rather than to quantify definitive budgetary outcomes. These projections do not represent a full simulation of Maryland Transit Administration financial operations, nor do they model the complete system wide effects of implementing each recommendation simultaneously. Instead, they provide an initial screening-level assessment designed to inform policy discussion and identify areas where more detailed financial evaluation would be warranted.

REVENUE AND ECONOMIC IMPACT ANALYSIS BY RECOMMENDATION

1. Standardize the Joint Development Process and Require Transit Contributions

Standardizing the joint development process and requiring defined transit contributions has the potential to shift a meaningful portion of station capital costs from public funding to private development partners. This mechanism generates value primarily through capital cost offsets rather than direct revenue, requiring developers to deliver or fund station infrastructure as a condition of development on or adjacent to transit property. National precedent demonstrates the scale of potential participation. At Boston Landing Station in Massachusetts, the private developer funded approximately 97 percent of vertical station construction costs, totaling \$25.3 million, and funded approximately 74 percent of total station-related infrastructure costs (Page, 2016). This case demonstrates how standardized expectations can reduce public capital expenditures when transit contribution requirements are incorporated into development agreements.

Maryland planning documents indicate that comparable opportunities exist within the MARC system. The MARC Penn Line TOD Strategy identified 476 acres of publicly owned land along the corridor, including approximately 170 acres of undeveloped state-controlled property suitable for redevelopment across ten station areas (Maryland Department of Transportation, 2025). In addition, the MARC Growth and Transformation Plan proposes three new MARC stations at Bayview, Elkton, and Hancock, along with modernization and capacity upgrades at numerous existing stations to support expanded service levels (Maryland Transit Administration, 2025). New station construction and major reconstruction projects create the strongest opportunities to incorporate standardized joint development requirements because these projects allow transit infrastructure expectations to be defined early in the design and procurement process.

Based on the Massachusetts case study and Maryland-specific redevelopment capacity, developer-funded infrastructure contributions are expected to vary by station context. The Boston Landing case provides a high-end benchmark, where the developer funded 97 percent of the \$25.3 million vertical station cost and approximately 74 percent of total station-related costs (Page, 2016). For MARC, this benchmark should be adjusted downward in most cases because not all station areas have the same market strength, density, or private development scale. The MARC Penn Line TOD Strategy identifies 476 acres of publicly owned land along the corridor, including approximately 170 acres of undeveloped state-controlled property across 10 station areas, indicating that several stations have redevelopment potential but that the scale of opportunity will vary by location (Maryland Department of Transportation, 2025).

For major urban stations with strong market demand and structured development potential, developer participation could reasonably offset approximately \$35 million to \$65 million per station. This range reflects larger station reconstruction, structured parking, access improvements, and multimodal facility costs where private development value is high enough to support more substantial transit contributions. For suburban and non-urban stations, where development intensity is typically lower and infrastructure needs are more limited, developer-funded contributions are more likely to offset approximately \$12 million to \$30 million per station. This lower range is closer to the Boston Landing vertical station cost benchmark and reflects more limited improvements such as ADA upgrades, parking, station access, platforms, and passenger amenities. Differentiating between urban and non-urban station conditions improves the reliability of projected ranges by aligning contribution levels with expected development scale, land value, and infrastructure complexity.

Under a conservative implementation scenario involving three to five stations, including a mix of urban and suburban locations, total developer-funded infrastructure value is estimated to range from approximately \$60 million to \$210 million. These values were developed using a benchmark-scaling method commonly applied in transit joint development planning. Per-station contribution ranges were derived from the Boston Landing case in Massachusetts, where the developer funded approximately 97 percent of vertical station costs totaling \$25.3 million, and adjusted to reflect Maryland-specific station redevelopment capacity and

expected variation between urban and suburban station types (Page, 2016; Maryland Department of Transportation, 2025). Under a moderate implementation scenario with six to eight stations, estimated offsets increase to approximately \$120 million to \$360 million, while a long-term implementation with eight to twelve stations yields estimated offsets of approximately \$180 million to \$520 million. These values represent avoided public capital expenditures rather than new operating revenue and reflect the scale of infrastructure that could realistically be delivered through structured developer participation at selected MARC stations (Maryland Department of Transportation, 2025; Maryland Transit Administration, 2025; Page, 2016).

2. Estimated Revenue Potential from Advertising and Sponsorship

Advertising and sponsorship programs represent a modest but dependable supplemental revenue stream when managed through coordinated contracts and standardized asset deployment. The experience of the Massachusetts Bay Transportation Authority provides a relevant benchmark for estimating realistic revenue potential. The MBTA manages systemwide advertising through contracted vendors under revenue-sharing agreements with minimum guarantees, allowing the Authority to generate recurring program income without transferring asset ownership. Advertising formats include station panels, digital displays, vehicle wraps, and selective sponsorship placements structured to maintain operational control while capturing limited commercial value from transit infrastructure (Scott, 2013).

Recent operating oversight materials indicate that systemwide advertising and sponsorship programs at the MBTA generate revenue on the order of \$20 million to \$30 million annually, depending on contract structure and market conditions (MBTA Advisory Board, 2025). This level of revenue reflects the scale of MBTA's asset inventory, including dense urban stations, extensive rolling stock, and high daily ridership levels. Importantly, MBTA's experience demonstrates that advertising revenues remain stable when deployed across diversified assets but rarely represent a major share of total operating funding. The primary lesson for MARC is not the absolute revenue level but the proportional relationship between asset inventory and advertising yield.

Applying these benchmarks to MARC requires adjusting for system size and infrastructure characteristics. The MARC system includes approximately 42 passenger stations across the Penn, Camden, and Brunswick Lines, along with supporting facilities and rolling stock that collectively create opportunities for advertising placement (Maryland Transit Administration, 2025). Planned investments under the MARC Growth and Transformation Plan will expand fleet capacity, station infrastructure, and supporting facilities over time, increasing the total inventory of surfaces available for advertising and sponsorship deployment. These assets provide the physical basis for advertising placements across station platforms, parking facilities, passenger cars, and digital passenger information systems.

Based on proportional scaling from MBTA benchmarks and adjustment for MARC's smaller asset base and commuter-focused station environment, a coordinated MARC advertising and sponsorship program could reasonably generate \$4 million to \$8 million annually under moderate implementation, with potential growth to \$8 million to \$12 million annually under full systemwide optimization that includes digital media expansion, vehicle wraps, and targeted sponsorship agreements at high-volume stations. These estimates assume phased deployment beginning with high-ridership stations and major parking facilities, followed by expansion to suburban stations as standardized contracts mature. Even at the upper range, these revenues represent a supplemental funding stream rather than a transformational funding source. Their primary value lies in supporting station maintenance, passenger amenities, and minor capital upgrades that would otherwise compete for limited public funding.

3. Adopt a Ridership Development Strategy That Treats Fare Policy as a Long-Term Investment

Adopting a ridership development strategy that treats fare policy as a long-term investment would position MARC to strengthen ridership growth while maintaining fiscal stability. Institutional pass programs with major employers, universities, and government agencies are well aligned with MARC's commuter-oriented service pattern and regional labor markets. The MARC Growth and Transformation Plan identifies expanded service levels, new stations, and improved frequencies as central components of long-term system growth, which will expand the number of riders with access to reliable regional rail service (Maryland Transit Administration, 2025). Fare programs that reduce barriers to entry during early service expansion phases can stabilize demand, improve seat utilization, and increase long-term fare revenue. This approach frames fare policy as a tool to build sustained ridership rather than solely maximizing short-term returns.

This recommendation draws from the experience of the Utah Transit Authority, where institutional and bulk fare programs form a significant share of total passenger revenue. Utah data show that contract-based fare programs, including school and employer passes, accounted for approximately 48 percent of total fare revenue in 2019, with school-based programs representing a substantial share of overall pass-program revenue (Wasatch Front Regional Council, 2022). These programs generate predictable ridership volumes while distributing transit costs across large user groups, including universities, school districts, and major employers. Utah's experience demonstrates that bulk-purchase fare agreements can support stable ridership demand even when per-trip pricing is discounted, creating a more resilient revenue base over time.

Ridership response data from Utah further demonstrate the effectiveness of fare-based ridership incentives. During the statewide "Free Fare February" initiative, systemwide ridership increased by approximately 16 percent on weekdays, 58 percent on Saturdays, and 32 percent on Sundays, indicating that reductions in fare barriers can produce measurable increases in transit use across multiple travel markets (Wasatch Front Regional Council, 2022). Scenario modeling within the same study estimated that systemwide fare reductions could increase ridership by 24 to 36 percent, depending on program structure and service

availability. While MARC operates under different funding conditions than UTA, these findings suggest that targeted fare incentives, particularly institutional pass programs tied to employment and education centers, could produce measurable ridership gains without requiring systemwide fare elimination.

Revenue and cost impacts associated with ridership-focused fare policy typically develop gradually rather than immediately. Institutional pass agreements often produce lower revenue per individual trip but increase total fare revenue through higher ridership volumes and improved system utilization. Estimated revenue impacts were derived using proportional scaling based on observed MARC fare revenue and typical institutional participation rates. Recent data indicate that MARC generates approximately \$37.2 million annually in fare revenue, corresponding to several million passenger trips and an estimated average fare value in the range of approximately \$4 to \$6 per trip (Federal Transit Administration, 2024; Maryland Transit Administration, 2025). Applying institutional participation rates consistent with peer commuter rail programs suggests that targeted employer and university partnerships within the Baltimore–Washington corridor could reasonably generate incremental annual ridership increases sufficient to produce additional fare revenue in the range of approximately \$3 million to \$12 million annually, depending on participation rates, pricing structure, and geographic coverage. Over time, a larger and more stable rider base improves cost-effectiveness indicators such as passengers per revenue hour and farebox recovery ratios. These performance improvements strengthen the fiscal and political case for continued investment in the service expansions identified in the MARC Growth and Transformation Plan (Maryland Transit Administration, 2025; Wasatch Front Regional Council, 2022).

A short-term reduction in per-trip revenue is a likely outcome during early implementation of discounted institutional fare programs. Reduced fares for targeted groups, such as students or employees participating in bulk-purchase agreements, may lower near-term farebox revenue on a per-passenger basis. However, evidence from institutional fare programs indicates that early revenue reductions can be offset over time as participants transition into regular riders after leaving eligibility-based programs (Wasatch Front Regional Council, 2022). Riders introduced to transit through employer or university partnerships often continue using the system for work or personal travel after program participation ends, expanding the long-term customer base. In this context, temporary reductions in fare revenue should be viewed as an investment in rider acquisition that supports sustained ridership growth, improves utilization of existing capacity, and strengthens long-term fare revenue performance.

4. Formalize an MTA Asset and Station Portfolio for a Value Capture Strategy

Formalizing an asset and station portfolio strategy at the MTA level aligns directly with the agency's existing ownership, governance, and capital planning responsibilities. While MARC service operates across multiple jurisdictions, stations, parking facilities, and adjacent state-owned parcels are ultimately managed within the MTA's broader asset and real estate framework. The MARC Growth and Transformation Plan identifies expanded service levels, new stations, and upgraded facilities as central components of long-term investment, increasing the number and diversity of state-controlled assets that could support value capture activities (Maryland Transit Administration, 2025). Establishing a portfolio-based framework would allow MTA to proactively manage these assets in alignment with long-term capital and service objectives rather than responding to redevelopment proposals on an ad hoc basis.

Currently, station-area assets are frequently addressed on a project-by-project basis, often driven by external development interest or local government initiatives. Establishing a formal portfolio strategy would allow MTA to systematically categorize assets based on operational importance, redevelopment readiness, and long-term revenue suitability. The NJ Transit LAND Plan demonstrates the value of maintaining a centralized inventory of publicly owned land, stations, parking assets, and supporting facilities that are evaluated using standardized criteria such as development feasibility, transit accessibility, and partnership readiness (New Jersey Transit, 2025). This structured inventory allows agencies to prioritize sites with the greatest redevelopment potential while preserving operational flexibility at constrained locations. Applying a similar framework at MTA would improve coordination across planning, engineering, and real estate functions and provide counties and municipalities with clearer expectations regarding development opportunities.

This recommendation is informed directly by New Jersey Transit's LAND Plan, which treats transit-related land holdings as a long-term investment portfolio rather than a collection of isolated projects. The LAND Plan emphasizes the use of long-term ground leases, joint development partnerships, and coordinated land-use planning to generate incremental non-farebox revenue while retaining public ownership of transit assets (New Jersey Transit, 2025). The plan further demonstrates that formalizing asset governance reduces transaction costs by standardizing evaluation procedures and creating predictable processes for developer engagement. Rather than relying on one-time asset sales, the portfolio model prioritizes recurring lease-based revenue streams that maintain long-term public control of strategically located land.

Financial outcomes associated with a formalized asset portfolio strategy typically emerge gradually as redevelopment opportunities mature rather than producing immediate revenue gains. Estimated revenue ranges were developed using a station-level scaling method based on observed lease, concession, and parking revenue patterns across peer commuter rail systems, including programs documented in the NJ Transit LAND Plan. Comparable transit asset programs indicate that individual activated station sites can reasonably generate incremental annual revenues in the range of approximately \$0.5 million to \$3 million per site, depending on land availability, development intensity, and market demand.

Applying this per-site revenue framework to a limited subset of MARC stations suggests that early implementation involving approximately two to five active sites could reasonably support incremental annual revenue generation in the range of approximately \$5 million to \$15 million, primarily through long-term leases, parking optimization, and small-scale joint development agreements. Over longer time horizons, as redevelopment activity expands and additional sites are activated, participation across approximately six to twelve stations could increase annual recurring revenues to approximately \$15 million to \$35 million, depending on market conditions, development intensity, and coordination with local land-use planning. These estimates reflect the incremental nature of lease-based value capture and the time required to bring station-area redevelopment projects from planning through construction.

Beyond direct revenue generation, the institutional value of a portfolio strategy lies in its ability to position MTA assets for future value capture opportunities tied to transit-induced property value growth. The NJ Transit LAND Plan highlights the importance of aligning real estate management with transit planning to ensure that development supports ridership growth, station accessibility, and long-term system expansion (New Jersey Transit, 2025). By maintaining an updated inventory of developable land, lease opportunities, and partnership-ready sites, MTA would improve its capacity to negotiate favorable development terms and align real estate decisions with long-term service expansion priorities. This governance-centered approach strengthens the agency's readiness to implement future value capture tools, reduces uncertainty in project negotiations, and ensures that redevelopment activities support both operational performance and regional economic development objectives.

5. Institutionalize a MARC Communication Framework Linked to Capital Delivery and Performance

Institutionalizing a formal communication framework for MARC aligns with MTA's responsibility to demonstrate accountability for service delivery, capital investment, and system performance. Communication related to MARC service is often reactive and event-driven, focused on service disruptions or individual project announcements rather than providing a consistent explanation of how operations, capital delivery, and performance outcomes are connected. As implementation of the MARC Growth and Transformation Plan accelerates, this fragmented communication structure increases the risk of stakeholder misunderstanding and weakens the connection between investment decisions and public expectations (Maryland Transit Administration, 2025). Establishing a structured, systemwide communication framework would allow MTA to consistently present service changes, capital timelines, and performance metrics in formats accessible to riders, local governments, and state decision makers. This recommendation does not require new statutory authority or major capital investment but instead depends on improved coordination across planning, capital delivery, and public information functions.

This recommendation is informed by the experience of TransLink, the regional transit authority serving Metro Vancouver, where communication and customer experience planning are treated as core operational functions rather than secondary activities. The TransLink Customer Experience Action Plan explicitly links communication strategies to ridership behavior, emphasizing that understanding customer needs enables

agencies to design infrastructure and services that better attract and retain riders (TransLink, 2026). The plan further identifies personalized information delivery and coordinated messaging as tools that shape travel decisions and improve rider satisfaction. By integrating communication with service planning and infrastructure investment, TransLink demonstrates that communication systems can directly inform capital priorities rather than simply reporting completed projects.

Research on public-sector infrastructure governance indicates that transparent reporting practices improve institutional credibility and strengthen support for long-term capital funding programs. Transit agencies managing multi-year expansion programs face increased scrutiny regarding project timelines, costs, and operational outcomes. A structured communication framework allows agencies to explain delays, demonstrate corrective actions, and maintain stakeholder confidence even when implementation challenges occur. For MARC, where long-term expansion projects will require sustained political and financial support, the ability to communicate consistent performance information may influence legislative willingness to approve future funding allocations. Communication therefore functions not only as a public information tool but also as a planning input that helps agencies better align infrastructure investment with rider needs and travel behavior (TransLink, 2026).

Even modest schedule improvements of six to twelve months on large capital projects can reduce exposure to inflation-related cost escalation, which has historically ranged between approximately 3 to 6 percent annually for transportation infrastructure projects (Federal Highway Administration, 2023). Although this recommendation does not generate direct revenue, it contributes measurable financial value through improved project delivery stability and reduced institutional risk. Agencies that maintain consistent communication frameworks often experience fewer project interruptions associated with stakeholder opposition or misinformation. Improved transparency also supports stronger coordination with local governments responsible for permitting, zoning approvals, and station-area development activities. Over time, these institutional efficiencies can reduce administrative delays and improve capital delivery predictability. Even modest improvements in project delivery timelines can produce measurable cost avoidance by reducing exposure to inflation, contractor remobilization costs, and schedule-related change orders.

Operational implementation of a MARC communication framework would likely include standardized performance dashboards, regular public reporting cycles tied to capital program milestones, and coordinated messaging across service planning, engineering, and communications teams. Initial implementation costs would remain limited, primarily involving staff coordination and development of standardized reporting templates. Estimated annual costs were derived using staffing-based scaling consistent with communications and reporting functions observed at peer transit agencies. Comparable agency budgets indicate that communications and reporting units typically involve several dedicated staff positions supported by digital reporting infrastructure, with total annual costs commonly ranging between approximately \$0.9 million and \$1.5 million when accounting for personnel, software systems, and reporting tools (MBTA, 2023; TransLink, 2023).

Based on this staffing and technology framework, annual implementation costs for a MARC-scale communication program are reasonably expected to remain below \$1 million to \$2 million, primarily reflecting staffing alignment and digital reporting development. While these costs represent an operational investment, the long-term benefit lies in strengthening public trust, improving institutional coordination, and supporting sustained political commitment to the multi-decade investments identified in the MARC Growth and Transformation Plan (Maryland Transit Administration, 2025).

6. Establish Limited Revenue Retention Authority for MARC-Generated Revenues

Establishing limited revenue retention authority for MARC-generated revenues would strengthen the relationship between asset performance and reinvestment outcomes while remaining consistent with Maryland's centralized transportation finance structure. MARC commuter rail operations generate measurable fare and non-fare revenues but remain dependent on broader state-supported funding mechanisms. According to the Federal Transit Administration's National Transit Database, MARC commuter rail service generated approximately \$37.2 million in fare revenue while incurring more than \$161 million in operating expenses in the most recent reporting period (Federal Transit Administration, 2024). This difference reflects the broader structure of Maryland transportation finance, in which transit operations rely heavily on the Transportation Trust Fund and other dedicated revenues that supplement passenger fares (McCulloch, 2024). Within the Maryland Transit Administration's operating structure, commuter rail represents a significant but resource-intensive service category requiring sustained capital and operating investment to maintain reliability and support system expansion (Quist, 2025).

Under current practice, revenues generated through MARC-related activities such as parking, advertising, leasing, and other ancillary sources are deposited into the Transportation Trust Fund, where they support systemwide transportation programs rather than being directly reinvested in commuter rail infrastructure. While this structure provides flexibility for statewide transportation funding, it weakens the direct financial link between MARC asset performance and long-term reinvestment in stations and supporting facilities. Establishing limited revenue retention authority would allow a defined share of MARC-generated non-fare revenues to be reserved for reinvestment in rail-specific capital improvements, including station modernization, passenger amenities, parking infrastructure, and state-of-good-repair projects.

These estimates reflect typical non-fare revenue sources such as parking fees, advertising agreements, ground leases, concessions, and other lease-based income generated at commuter rail stations. The estimated retention range was developed by applying a conservative retention share to the non-fare revenue opportunities identified in earlier recommendations, rather than assuming that all MARC-generated revenues would be retained. Advertising and sponsorship could reasonably generate approximately \$4 million to \$12 million annually under broader implementation, while asset portfolio strategies involving leases, parking optimization, and small-scale joint development could generate approximately \$5 million to \$35 million annually. Together, these sources suggest a potential non-fare revenue base of roughly \$9 million to \$47 million annually, depending on implementation scale and market conditions.

Because a limited revenue retention framework would need to preserve the stabilizing role of the Transportation Trust Fund, the analysis assumes that only a portion of this non-fare revenue base would be retained for MARC-specific reinvestment. Under early implementation, a smaller revenue base and a retention share of approximately 30 to 50 percent would support retained revenues of roughly \$3 million to \$7 million annually. Under full program maturity, a larger non-fare revenue base combined with a more conservative retention share of approximately 25 to 40 percent would support approximately \$7 million to \$15 million annually. These values represent retained reinvestment capacity, not total gross non-fare revenue, and assume phased implementation beginning with high-volume stations, parking facilities, advertising contracts, and lease-based agreements.

Beyond direct revenue generation, the primary economic benefit of revenue retention authority lies in improving capital planning predictability and strengthening long-term asset stewardship. Allowing MARC to retain defined revenue streams would create a clearer connection between operational performance and reinvestment outcomes, supporting more consistent funding for station maintenance and passenger-facing infrastructure improvements. Over time, improved asset condition and passenger experience may contribute to increased ridership retention and improved system reliability, strengthening the financial sustainability of commuter rail operations within Maryland's broader transportation funding framework.

7. Authorize Rail-Specific Borrowing Tied to Defined Repayment Sources

Authorizing limited, rail-specific borrowing authority tied to defined repayment sources would allow MARC to advance priority infrastructure investments while maintaining fiscal discipline within Maryland's existing transportation finance framework. Borrowing, when structured appropriately, functions as a capital sequencing mechanism rather than a substitute for stable funding. Major rail infrastructure investments require substantial upfront capital, while supporting revenue streams accumulate over extended periods. Within Maryland's centralized Transportation Trust Fund structure, this timing mismatch can delay implementation of corridor improvements, station upgrades, and capacity expansion projects. Structured borrowing authority supported by predictable, non-fare revenue streams would allow projects to proceed when they are most cost-effective rather than waiting for full pay-as-you-go funding accumulation (McCulloch, 2024; Quist, 2025).

The Virginia Passenger Rail Authority (VPRA) provides a relevant institutional model demonstrating how constrained borrowing authority can support large-scale rail capital delivery. Under Virginia statute, VPRA is authorized to issue bonds supported by dedicated rail-related revenues, enabling long-term infrastructure financing aligned with asset life cycles (Code of Virginia, 2020a). Dedicated funding streams form the financial foundation of this authority, ensuring that repayment obligations remain tied to stable revenue sources rather than volatile operating income. VPRA's financial planning framework demonstrates how borrowing authority can be integrated into long-term capital programming, supporting major infrastructure investments and corridor improvements within a structured, revenue-backed financing model (Virginia Passenger Rail Authority, 2022).

This approach shows how borrowing can function as a sequencing tool that accelerates capital delivery without displacing baseline funding responsibilities.

Estimated borrowing capacity associated with this recommendation depends on the availability and stability of defined repayment sources, including retained asset-based revenues, structured value capture contributions, and lease-based income streams described in earlier recommendations. Borrowing ranges were developed using standard public-sector debt capacity methods commonly applied in transportation infrastructure finance. These methods estimate borrowing capacity based on available annual repayment revenues, typical debt coverage ratios of approximately 1.5 to 2.0, and repayment terms of 20 to 30 years, consistent with federal transportation credit programs such as the Transportation Infrastructure Finance and Innovation Act (TIFIA) and Railroad Rehabilitation and Improvement Financing (RRIF) programs (Federal Transit Administration, 2023).

Under conservative early implementation conditions, limited repayment revenues in the range of approximately \$4 million to \$7 million annually could reasonably support capital financing of approximately \$75 million to \$150 million. Under moderate implementation conditions, assuming expanded asset-based revenues and stabilized repayment sources supporting approximately \$8 million to \$15 million annually, borrowing capacity could increase to approximately \$150 million to \$350 million. Under long-term implementation supported by diversified repayment sources and demonstrated revenue performance supporting approximately \$18 million to \$30 million annually, total borrowing capacity could reasonably expand to approximately \$350 million to \$750 million, depending on statutory borrowing limits, credit conditions, and revenue stability. Comparable structured borrowing practices are observed in state-led rail investment programs, including those implemented by the Virginia Passenger Rail Authority (Virginia Passenger Rail Authority, 2023).

Beyond direct financing capacity, the principal economic benefit of rail-specific borrowing lies in improved project delivery timing and reduced exposure to inflation-related construction cost escalation. Infrastructure projects delayed due to funding constraints frequently experience measurable cost increases associated with material price escalation, contractor mobilization cycles, and extended design timelines. Advancing projects earlier through controlled borrowing mechanisms allows agencies to secure construction services at more favorable cost conditions and align infrastructure delivery with long-term ridership growth. When paired with limited revenue retention authority and clearly defined repayment mechanisms, rail-specific borrowing supports predictable capital sequencing while preserving the stabilizing function of Maryland's centralized transportation finance structure.

8. Create a Local Value Capture Fund Tied to Transit-Induced Property Value Growth

Creating a Local Value Capture Fund tied to transit-induced property value growth would provide a predictable revenue stream that aligns infrastructure investment with the beneficiaries of improved rail service. Rail investments consistently increase surrounding property values by improving accessibility, reducing travel times, and increasing development potential near stations. Rather than imposing new taxes, this recommendation captures a portion of incremental property tax growth generated by transit investment while allowing counties to receive most of the long-term fiscal gains.

Under this framework, a baseline property tax value would be established for defined station-area districts at the time of rail investment. As property values increase due to improved transit access and associated development, the incremental growth above the baseline would be measured annually. A defined portion of this incremental tax revenue would be transferred to a dedicated MARC capital fund, while the remaining portion would continue to flow to county governments. This structure ensures that counties receive higher total revenues than they would have received without transit investment, while also returning a portion of transit-generated value to the system that created it.

Incremental growth would typically be measured annually based on updated property assessments within defined station-area districts. For example, if a station-area district generated \$10 million annually in property tax revenue before transit improvements, that amount would remain fully dedicated to county use as the baseline. If transit improvements and redevelopment increased annual revenue to \$14 million, the \$4 million increase would represent incremental growth. Under a structured allocation model, a portion of that incremental revenue, such as 25 to 40 percent, could be directed to the MARC value capture fund, while the remaining 60 to 75 percent would remain with the county. In this scenario, the county would receive more total revenue than before the investment, while MARC would gain a dedicated funding stream tied directly to system improvements.

Experience from peer agencies demonstrates that structured land-based revenue programs can generate measurable returns when coordinated with transit-oriented development strategies. The New Jersey Transit LAND Plan identifies transit-accessible land as a long-term financial resource capable of generating sustained revenue through coordinated development and value capture mechanisms (New Jersey Transit, 2025). Similarly, the MARC Growth and Transformation Plan identifies approximately 476 acres of publicly controlled land, including roughly 170 acres of undeveloped property, distributed across multiple station environments that are positioned to support redevelopment activity tied to improved rail service (Maryland Transit Administration, 2025). These assets provide the geographic foundation required to support incremental value growth and long-term revenue generation.

Estimated revenue generation associated with this recommendation depends on property value growth rates, development intensity, and participation across station-area jurisdictions. Implementation scenarios were defined using participation levels and property value growth patterns consistent with value capture forecasting practices applied in major U.S. transit projects. Under conservative implementation conditions, defined as participation by approximately two to four station-area districts with moderate property value growth of approximately 2 to 3 percent annually, a Local Value Capture Fund could reasonably generate approximately \$5 million to \$15 million annually.

Under moderate implementation conditions, defined as participation by approximately five to eight station-area districts across two to three counties, combined with coordinated land use planning and property value growth of approximately 3 to 4 percent annually, annual revenue generation could increase to approximately \$15 million to \$40 million.

Under long-term implementation conditions, defined as participation across eight to twelve station-area districts with sustained redevelopment activity and property value growth of approximately 4 to 5 percent annually, annual value capture revenue could reasonably reach approximately \$40 million to \$75 million, depending on growth rates and allocation percentages. Comparable multi-scenario value capture forecasting approaches have been applied in major transit projects such as the Denver Union Station redevelopment and Northern Virginia rail investment programs (Regional Transportation District, 2014; Metropolitan Washington Airports Authority, 2018).

Beyond direct revenue generation, this incremental growth structure strengthens regional fiscal stability by aligning transportation investment with long-term development outcomes. Transit-linked property value growth increases county tax bases while reinforcing transit ridership demand through increased residential and commercial density near stations. Because counties retain baseline revenues and a majority share of incremental growth, the model preserves local fiscal autonomy while creating a predictable funding stream for transportation reinvestment.

When combined with revenue retention authority and rail-specific borrowing mechanisms described in earlier recommendations, a Local Value Capture Fund provides a stable repayment source that supports phased capital expansion. Over time, this structure strengthens the financial link between infrastructure investment, property development, and long-term transportation system performance.

9. Evaluate Restructuring MTA into a Utility-Style Commuter Rail Authority

Restructuring the Maryland Transit Administration into a utility-style commuter rail authority represents a long-term institutional reform whose monetary effects are complex and beyond the scope of this analysis to quantify directly. Unlike revenue-generating tools such as value capture or asset development, governance restructuring affects how funding decisions are made rather than producing immediate income. The financial implications depend on multiple variables, including statutory authority, revenue dedication, debt capacity, and long-term capital program size. Because these factors vary based on legislative design and future funding commitments, estimating specific revenue or borrowing capacity attributable solely to governance restructuring would introduce significant uncertainty and risk overstating projected financial impacts.

Although direct monetary effects cannot be reliably estimated, peer experience demonstrates that governance restructuring can produce meaningful institutional and financial benefits over time. The Virginia Passenger Rail Authority model shows how consolidating passenger rail planning, asset ownership, and revenue management within a dedicated authority can improve capital sequencing and support long-term infrastructure delivery supported by defined funding streams (Code of Virginia, 2020a; Virginia Passenger Rail Authority, 2022). Similar governance structures allow agencies to align borrowing authority with dedicated revenues, reduce fragmentation across decision-making bodies, and improve transparency around infrastructure performance. For Maryland, the primary benefit of evaluating a utility-style commuter rail authority lies in strengthening long-term planning capacity, improving financial discipline, and creating institutional conditions that support sustained rail investment across multiple decades.

10. Align Funding Tools with Phased Corridor Expansion

This sequencing approach reduces the likelihood of committing long-term financing before project feasibility and demand are fully demonstrated. Aligning funding tools with clearly defined phases of corridor expansion would improve financial discipline by matching funding mechanisms to project readiness rather than treating expansion as a single capital commitment. The monetary effects of this recommendation are dependent on project sequencing decisions, corridor readiness, and future capital priorities, making direct revenue estimates beyond the scope of this analysis. However, phased alignment of funding tools reduces exposure to financial risk by limiting the use of high-commitment financing mechanisms until projects demonstrate sufficient demand, political support, and defined infrastructure needs. Early-stage activities such as planning, design, and service optimization can be supported through flexible funding sources, while later-stage infrastructure construction can rely on structured financing tied to defined assets and repayment streams.

Peer experience demonstrates that phased financing strategies improve long-term capital efficiency and reduce fiscal risk. The Virginia Passenger Rail Authority and the Utah Transit Authority both structure rail expansion around staged implementation, using lower-risk funding sources during early phases and deploying borrowing or dedicated revenues only when projects reach advanced development stages. This sequencing allows agencies to manage uncertainty, reduce the likelihood of stranded investments, and improve alignment between infrastructure delivery and demonstrated ridership demand. For Maryland, aligning funding tools with phased MARC corridor expansion would strengthen capital delivery discipline, improve predictability in long-term financial planning, and reduce the risk of cost escalation associated with premature or poorly sequenced infrastructure investment.

Taken together, these estimates illustrate the scale of financial opportunity available through coordinated implementation of the recommended strategies. Individual mechanisms produce incremental gains, but their combined effect creates a diversified funding structure capable of supporting long-term MARC expansion. These projections are intended to inform planning decisions rather than establish fixed forecasts and should be refined as implementation details and market conditions evolve.

SUMMARY

Rec	Strategy	Early Implementation	Moderate Implementation	Long-Term Implementation	Primary Financial Effect
1	Joint Development Contributions	\$60M–\$210M	\$120M–\$360M	\$180M–\$520M	Capital cost avoidance
2	Advertising & Sponsorship	\$1M–\$3M annually	\$4M–\$8M annually	\$8M–\$12M annually	Recurring revenue
3	Ridership Development	—	\$3M–\$12M annually	\$5M–\$15M annually	Fare revenue growth
4	Asset Portfolio Strategy	\$5M–\$15M annually	\$10M–\$25M annually	\$15M–\$35M annually	Lease-based revenue
5	Communication Framework	<\$1M–\$2M cost	Efficiency gains	Cost avoidance	Project delivery efficiency
6	Revenue Retention Authority	\$3M–\$7M annually	\$5M–\$12M annually	\$7M–\$15M annually	Retained capital funding

Rec	Strategy	Early Implementation	Moderate Implementation	Long-Term Implementation	Primary Financial Effect
7	Rail-Specific Borrowing	\$75M–\$150M	\$150M–\$350M	\$350M–\$750M	Capital acceleration
8	Local Value Capture Fund	\$5M–\$15M annually	\$15M–\$40M annually	\$40M–\$75M annually	Incremental property tax revenue
9	Utility-Style Authority	Not quantified	Institutional benefit	Institutional benefit	Financing capacity enablement
10	Phased Funding Alignment	Not quantified	Efficiency gains	Efficiency gains	Risk reduction

Taken together, the recommended strategies have the potential to support between approximately \$530 million and \$1.27 billion in capital investment capacity, while generating between approximately \$75 million and \$152 million in recurring annual revenue under long-term implementation conditions. These estimates reflect planning-level projections derived from peer agency benchmarks and are intended to illustrate the scale of potential financial outcomes rather than precise forecasts.

MARC