

Innovative Funding and Financing for *Small-Scale Transportation Projects*

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1.

Executive *Summary*

Small-scale transit and transportation projects play a critical role in maintaining and improving local transportation systems, yet they often face unique funding and financing challenges. While these projects are generally too large to be delivered through routine local capital budgets, they are often smaller than the projects that traditionally attract dedicated revenue streams, federal credit programs, or other innovative financing approaches. As a result, project sponsors frequently rely on fragmented funding sources, phased implementation, or delayed delivery, even when project needs are well understood and widely supported.

Although innovative funding and financing tools are most commonly associated with major infrastructure investments, they can also be applied effectively to smaller-scale transportation projects under the right conditions. The challenge is rarely identifying a single funding source or financing instrument; rather, it is understanding how different tools can be combined and adapted to fit the institutional, financial, and legal context of an individual project.

This guide presents practical examples of how public agencies have successfully addressed these challenges. Rather than prescribing a single decision framework, it examines real-world projects to illustrate how innovative funding sources and financing tools have been used to accelerate delivery, bridge funding gaps, coordinate investments, and improve project outcomes. The case studies demonstrate that successful approaches depend not only on the availability of funding and financing, but also on agency capacity, project planning, stakeholder coordination, and the ability to adapt strategies to local circumstances.

The guide is organized around six case studies and one thematic discussion of project bundling. Together, these examples represent local governments, transit agencies, county governments, and state transportation agencies, and illustrate a range of innovative funding and financing approaches applicable to small-scale transportation projects.

CASE STUDY	PROJECT TYPE	INNOVATIVE FUNDING / FINANCING	KEY LESSON
<i>Rockside Bridge Replacement (Ohio)</i>	Bridge replacement	State Infrastructure Bank	Programmatic financing can spread costs over time while improving management of a broader capital program.
<i>Jackson School Road (Oregon)</i>	Complete street reconstruction	Value capture and dedicated local revenues	Stable local funding sources can support major capital projects, but stakeholder management often determines delivery.
<i>Escanaba Street Reconstruction (Michigan)</i>	Utility and roadway reconstruction	State Infrastructure Bank	Targeted financing enabled the City to leverage required utility work into broader transportation improvements.
<i>Vine Transit Maintenance Facility (California)</i>	Transit maintenance facility	TIFIA Rural Project Initiative	Federal credit can bridge funding uncertainty and preserve project delivery while long-term revenues mature.
<i>Mount Vernon Library Commons (Washington)</i>	Transit-oriented civic facility	TIFIA and layered capital stack	Strong leadership and creative capital structuring enabled a transformative community investment.
<i>Oklahoma Rural Two-Lane Advancement and Management Plan</i>	Statewide rural highway program	TIFIA Rural Project Initiative	Federal credit accelerated delivery of a statewide portfolio of rural safety improvements.
<i>Project Bundling</i>	Thematic discussion	Delivery strategy	Bundling can create the scale needed to improve procurement, funding competitiveness, and financing opportunities.

Several consistent themes emerged across these case studies:

- **Clearly define the project need before selecting funding and financing tools.** The most successful projects began with a well-defined transportation or community need and then identified funding and financing strategies that supported those objectives, rather than allowing available funding sources to dictate project scope.
- **Innovative financing is often about accelerating delivery and managing uncertainty rather than simply borrowing money.** Across the case studies, financing tools such as TIFIA and State Infrastructure Banks were used to bridge funding gaps, spread costs over time, reduce exposure to inflation, and maintain project momentum during periods of funding uncertainty.
- **Institutional capacity is as important as financial capacity.** Successful implementation frequently depended on strong leadership, experienced staff, trusted advisors, and productive relationships with state and federal partners. Agencies that invested in building this capacity were better positioned to pursue more sophisticated funding and financing strategies.
- **Projects should be managed as part of a broader capital program rather than as isolated investments.** Many agencies achieved better outcomes by coordinating multiple projects, sequencing investments strategically, or viewing financing decisions within the context of their overall capital program rather than focusing on individual projects in isolation.
- **Coordination across agencies and infrastructure systems creates additional value.** Several case studies demonstrated that aligning transportation improvements with utility work, regional priorities, or complementary capital projects reduced disruption, improved efficiency, and generated broader public benefits than delivering projects independently.
- **There is no single funding or financing strategy for small-scale transportation projects.** Every case reflected a different combination of project objectives, agency capabilities, legal authorities, available revenues, and market conditions. The approaches presented in this guide should therefore be viewed as examples that can inform professional judgment rather than as prescriptive solutions.

Collectively, these case studies demonstrate that innovative funding and financing tools are not limited to large megaprojects. When combined with thoughtful project planning, strong institutional capacity, and an understanding of local circumstances, these approaches can help public agencies deliver transportation improvements that might otherwise be delayed, scaled

back, or remain unfunded. By documenting practical examples from across the United States, this guide seeks to expand the range of options available to agencies responsible for delivering small-scale transportation projects and to encourage broader consideration of innovative funding and financing strategies in future project development.



2.

Introduction

2.1 The Funding Context for Small-Scale Transportation Projects

Small-scale transportation projects face a recurring structural constraint; they are often too large to be absorbed into municipal capital budgets, yet too small to access the financing structures and dedicated revenue streams typically associated with major projects. In practice, projects in the \$20 million to \$60 million range rely on a patchwork of formula funds, discretionary grants, local match requirements, and agency reserves, even where the underlying public need is well established. The challenge is not project justification, rather aligning scale with available funding sources and financing tools. Many projects of this size do not fit cleanly within either traditional pay-as-you-go capital programs or credit-based financing. As a result, they frequently face funding gaps and misaligned funding timelines, both of which can delay or jeopardize project delivery.

This problem is especially pronounced for the agencies that most often sponsor small transportation projects at this scale, including local governments, transit agencies, development authorities, and metropolitan planning organizations. Such projects are often too substantial to be funded incrementally through annual budgeting, but they may also lack the dedicated revenues needed to support conventional borrowing. Delivering smaller projects commonly depends on assembling a workable capital stack across multiple public sources, often with different timelines, eligibility rules, and matching requirements. This fragmentation can delay project development, increase cost exposure, and create administrative burdens that are particularly difficult for smaller agencies to manage.

For smaller transportation projects, innovative financing tools are typically used to bridge timing gaps, close residual shortfalls, accelerate delivery, and/or structure repayment around a stable revenue source. Funding sources such as value capture and financing tools such as federal credit programs or State Infrastructure Banks (SIBs) can expand feasible delivery pathways, but only where enabling conditions are present, including identified reliable repayment sources, a clear project purpose, legal authority, and sufficient administrative capacity.

This guide examines how innovative funding sources and financing tools have been applied in real-world small-scale transportation projects to help public sponsors, particularly local agencies, transit operators, and MPOs, understand which approaches may be workable in different circumstances. The guide is organized around project case studies that document implementation,

enabling conditions, and lessons for replication, with the goal of improving the practical understanding and use of innovative funding and financing strategies for projects that are often difficult to deliver solely through conventional funding sources.

2.2 Key Terms and Definitions

Several terms are used through this guide. Here are their definitions.

Funding

Revenue sources such as grants, taxes, user fees, and contributions that a project sponsor uses to pay for a project. Funding can cover direct construction and operating costs, or it can serve as the repayment source for financing.

Innovative Funding

Refers to non-traditional revenue sources used to support infrastructure projects, typically by expanding or diversifying the sources of public funds beyond standard taxes and grants. These sources can include innovative revenue streams, often by linking project benefits to funding sources. Examples include value capture tools such as tax increment finance and special assessments, local sales taxes, and developer contributions.

Financing

Borrowed capital, such as loans or bonds, that provides upfront resources for project delivery but must be repaid over time from an identified revenue or funding source. Unlike funding, financing does not reduce a project's total cost; it determines when and how that cost is paid.

Innovative Financing

Non-traditional credit instruments and lending mechanisms used to fund project delivery, as distinct from conventional General Obligation bonds. Innovative financing tools include federal credit programs such as TIFIA, State Infrastructure Banks, and other loan or bond structures that leverage project revenues or assets to attract capital that would not otherwise flow to a project.

Small-scale Projects

For the purposes of this guide, small-scale transportation projects are projects that are modest in scale relative to the transportation projects that typically employ innovative funding and financing tools. There is no universal cost threshold that distinguishes projects suitable for these approaches, as what constitutes a "small" project depends on the sponsoring agency and project context. However, this guide focuses on projects that are generally too large to be delivered through routine capital budgets, yet are smaller than the

projects that most commonly use dedicated revenue streams, complex financing structures, and specialized procurement approaches. While these tools become increasingly practical and common as project scale increases, there is no clear point at which they become appropriate. This guide therefore examines how they can also be applied to projects at a smaller scale, which in the case studies presented here generally fall in the \$20–60 million range and are most often sponsored by local governments, transit agencies, transportation authorities, or metropolitan planning organizations.

Agency Context

A descriptive summary of the public agency or jurisdiction sponsoring the project. Throughout this guide, information such as the population served, urban or rural setting, approximate organizational scale, and, where relevant, capital program or staffing is provided to help readers assess how comparable each case study is to their own circumstances. No single measure fully captures the scale or capacity of a public agency, so these characteristics are presented for context rather than as formal classifications.

2.3 Research Methodology and Case Study Development

This guide uses case studies to provide a practice-oriented perspective on how innovative funding sources and financing tools have been applied to small-scale projects. The research focuses on how project sponsors navigate real-world constraints, assemble funding and financing strategies, and deliver projects in their communities. This bottom-up approach allows the guide to capture not only what tools are available, but how they are applied, adapted, and combined in different contexts.

Case study projects were identified through a combination of industry outreach, review of recently delivered transportation projects across the United States, and publicly available project documentation. Candidate projects were initially identified through the research team's professional network of practitioners involved in innovative funding, financing, and transportation project delivery. Projects were screened based on their relevance to the guide's objectives, including project scale, sponsor type, the role of innovative funding or financing, and the potential to provide transferable lessons for other public agencies.

The final case studies were developed through interviews with staff from six public agencies directly responsible for delivering the selected projects, supplemented by a review of project documentation and other publicly available sources. Interviews focused on the practical aspects of project development, including

decision-making, funding and financing strategies, implementation challenges, and lessons learned. The section on project bundling draws on discussions with additional industry practitioners experienced in bundled project delivery, together with published literature. The Oklahoma Rural Two-Lane Advancement and Management Plan (RAAMP) case study was developed primarily from materials provided by the Build America Center, including a case study prepared by Qingbin Cui and Nefretiti Harrison, supplemented by the research team's review and analysis. Because the guide is intended as a practice-oriented resource, the case studies are illustrative rather than statistically representative of all small-scale transportation projects.

Findings from interviews and documentation research were analyzed and synthesized into individual case studies using a consistent structure. Each case documents project characteristics, funding and financing approach, implementation process, obstacles, and lessons learned. This format supports cross-case comparison and enables the identification of broader patterns and insights on the practical use of innovative funding and financing tools for small-scale transportation projects.



3.

Case *Studies*

3.1 Rockside Bridge Replacement Project

TOTAL PROJECT COST

\$22.5 million

AGENCY CONTEXT

County government; ~1.2 million residents; urban county.

LOCATION

Urban

TYPE OF IMPROVEMENT

Bridge replacement

INNOVATIVE FUNDING OR FINANCING

State Infrastructure Bank

The Rockside Road Bridge Replacement project involved the reconstruction of two aging bridge structures along a critical arterial corridor in Cuyahoga County, Ohio, and illustrates how a routine infrastructure investment can be delivered through established programmatic processes and innovative financing. Located approximately 20 minutes south of downtown Cleveland, Rockside Road serves as a major east-west connection, carrying roughly 26,000 vehicles per day and linking residential, commercial, and regional highway networks. The \$22.5 million project combined a SIB loan with a state grant and local contributions and was structured so that both Cuyahoga County and the Northeast Ohio Areawide Coordinating Agency (NOACA) could advance a larger investment than either entity's annual funding cycle could support on its own. Rather than being driven by a single triggering event, the project reflected ongoing asset management, prioritization, and coordination across a broader portfolio of infrastructure needs.

The need for the project emerged from the gradual deterioration of the existing structures, which were originally designed to older standards and no longer met modern load and performance requirements. Like many bridge assets in the county's portfolio, these structures were regularly inspected and monitored through a formal asset management system. Although identified as a long-term need as early as the mid-2000s, the project was initially deferred in favor of higher-priority assets in worse condition. As the bridges continued to age and their condition declined, replacement became increasingly necessary to maintain safe and reliable service along this critical corridor.

The project ultimately advanced as a full replacement rather than a rehabilitation effort, reflecting both the structural condition of the bridges and the need to meet current design standards — particularly for modern truck loads and long-term durability. The scope included demolition of the existing structures and construction of new bridges designed for an extended service life. Given the importance of the corridor and the limited availability of alternative crossings, construction was phased to maintain traffic flow, with temporary configurations used to keep the route partially open during the work.

Delivery involved coordination among several public entities. Cuyahoga County, through its Department of Public Works and County Engineer, served as the project sponsor and was responsible for planning and implementation. NOACA played a central role in allocating federal funding and structuring the use of the SIB loan. Additional support came from the State of Ohio through grant funding. The project was located within the municipalities of Independence and Valley View, requiring local coordination, though responsibility



for the bridges rested with the county — a multi-level arrangement typical of transportation project delivery in larger metropolitan regions.



Takeaway Summary

- *Structured prioritization systems can guide project development, but still require active management to align condition, funding, and timing.*
- *Project advancement depends on balancing asset condition with funding eligibility and financing capacity, requiring agencies to continuously adjust priorities.*
- *Financing tools can enable delivery of larger projects by spreading costs over time, reducing pressure on annual funding programs.*
- *Programmatic financing tools provide flexibility, allowing agencies to adapt to delays, unused funds, and shifting priorities.*
- *Established institutional processes can reduce delivery complexity, but effective coordination across agencies remains essential.*
- *Coordinating construction at the network level can minimize disruption and improve overall system performance.*

Initiation and Decision-Making

The Rockside Road Bridge Replacement project was initiated through Cuyahoga County's established asset management and capital planning processes. The County was responsible for more than 200 bridge structures and conducts regular inspections to assess their condition using a standardized rating system. These ratings, combined with traffic volumes and the role each bridge plays in the network, are used to identify infrastructure needs and prioritize projects across the system.

Within this process, the Rockside bridges were identified early as needing replacement—they carried high traffic

volumes and served as a key east–west connection—but were not among the most deteriorated assets in the portfolio, so they remained in the pipeline while higher-priority projects moved forward.



Takeaway 1: Structured prioritization systems guide decisions, but still require active management.

Formal asset management systems help agencies identify and rank projects, but staff still need to actively manage the pipeline to balance the condition, funding, and timing needed to move projects forward.

Two constraints kept the project deferred. First, SIB capacity was limited: as a revolving fund, its lending ability depends on prior borrowers' repayments, and most funds had already been committed. Second, many funding programs prioritize assets that have reached a more critical state of deterioration, creating a timing tension: the Rockside bridges had to wait until financing capacity was restored and their condition had declined enough to qualify. The County continued monitoring and maintaining the structures throughout.



Takeaway 2: Project prioritization is a balancing act between asset condition, funding eligibility, and financing capacity.

Funding programs tend to target the most deteriorated assets, but agencies aim to intervene before infrastructure reaches that level of criticality. This creates a moving balance: projects must be timed so that they are eligible for funding while still being delivered before conditions worsen too far. At the same time projects can only advance when sufficient funding and financing capacity is available. Together, these factors require agencies to continuously adjust priorities within their project pipeline.

The project was eventually advanced when these conditions came together. As the bridges' condition declined relative to other assets and SIB capacity became available again, the County revisited the project, updated its plans, and moved it forward. This reflects a broader pattern where projects move in and out of priority over time, depending on both system needs and available resources.

Decision-making for the project involved coordination across multiple public entities. Cuyahoga County led the project as sponsor, identifying the need and advancing it through its capital program. The Northeast Ohio Areawide Coordinating Agency (NOACA), as the metropolitan planning organization, played a central role in allocating federal funding and structuring the use of the SIB loan. The State of Ohio supported the project through its SIB program and additional funding sources. Together, these entities worked within an established process to move the project from a long-standing need to an active capital investment.

Funding and Financing Approach

Delivering the Rockside Road Bridge Replacement project required coordination between Cuyahoga County and NOACA to address a shared constraint: both entities operate within annual funding limits that are designed to support a broad pipeline of projects rather than a single large investment. The County relies on recurring local revenues—primarily through local gas taxes and license plate fees, while NOACA distributes federal funds—primarily through the State Transportation Block Grant (STBG) program—across multiple priorities each year. Neither entity could fully fund the investment in a single cycle without delaying other projects. The challenge was therefore to structure the project in a way that allowed it to move forward while preserving capacity across the broader program.

Rather than relying solely on annual allocations, the project team turned to a SIB loan as the central structuring tool. The loan, totaling approximately \$14.4 million, allowed the project to be delivered as a single, coordinated investment by converting a large upfront cost into a series of predictable annual payments. NOACA committed to repaying approximately 80 percent of the loan using future STBG allocations, resulting in payments of roughly \$1.4 million per year over ten years. The County was responsible for the remaining 20 percent, using its gas tax and license plate fee revenues. This approach made it possible to advance the project without requiring either the County or NOACA to dedicate a disproportionate share of their available funds in a given year.

Takeaway 3: Financing enables projects to move forward when annual funding alone is not sufficient.

For larger projects, the key constraint is often not whether funding exists, but whether it can be assembled within a single budget cycle. Financing allows agencies to bridge this gap by spreading costs over time, making projects deliverable without disrupting the broader capital program.

In addition to the SIB loan, the project incorporated a \$4.2 million grant from the Ohio Public Works Commission and approximately \$3.8 million in direct County contributions. The result was a layered structure that combined financing, grant funding, and local contributions to deliver the project.

TABLE 1: JACKSON SCHOOL ROAD SOURCES OF FUNDING AND FINANCING (SEE APPENDIX FOR DESCRIPTIONS OF MAJOR FUNDING AND FINANCING SOURCES)

SOURCE	AMOUNT
State Funding	
Ohio Public Works Commission Grant	\$4,200,000
State Financing	
SIB Loan	\$14,400,000
Local Funding	
Gas tax and license plate fee revenues	\$3,857,000
Total Project Funding/Financing	\$22,457,000

Beyond the project itself, the use of the SIB reflects a broader programmatic approach to managing funding across multiple investments. One feature that supports this approach was the ability to repay loans early. When projects are delayed and funds are not fully used in a given year, those funds can be applied to outstanding loan balances. This reduces future repayment obligations and restores borrowing capacity more quickly, allowing the program to adapt to changing conditions.

Takeaway 4: Financing tools can provide flexibility at the program level, not just the project level.

Features such as multi-year repayment and the ability to repay early allow agencies to adjust to delays, unused funds, and shifting priorities, making financing an active tool for managing the overall capital program.

Process and Obstacles

The Rockside Road Bridge Replacement project was delivered through established institutional processes, with clearly defined roles across Cuyahoga County, NOACA, and the other stakeholders. Because these roles and procedures were already in place, the project did not require new delivery structures or procurement approaches. Instead, execution focused on applying existing processes and coordinating across agencies to align funding, financing, and construction timelines.

Takeaway 5: Established processes reduce complexity but still depend on coordination.

Even when roles and procedures are well defined, projects still require active coordination across agencies to align funding, financing, and delivery timelines.

One of the more practical challenges during delivery was construction sequencing. The project team needed to coordinate with a nearby bridge replacement on Pleasant Valley Road to avoid closing multiple parallel routes at the same time. Rather than advancing both

PROJECT TIMELINE

2000S

Bridge replacement need first identified.

2012

Project brought forward as a priority candidate but not advanced.

2022

Project reactivated.

2025

Construction begins.



projects simultaneously, the Rockside project was delayed until the adjacent project had progressed far enough to maintain traffic flow across the network. This approach minimized disruption to the surrounding community and reflects a system-level perspective on project delivery, where individual projects are sequenced based on their combined impact rather than treated independently.

Takeaway 6: Project sequencing should be managed at the network level.

Coordinating construction across nearby assets can reduce disruption and improve outcomes, even if it requires delaying individual projects.

A more significant constraint emerged earlier in the project's development, related to the availability of SIB financing. As a revolving loan fund, the SIB's lending capacity depends on repayments from previous projects. At the time the Rockside project was first prioritized, most of the available funds had already been committed, limiting the ability to issue new loans. As a result, the project could not move forward despite being identified as a priority.

Takeaway 7: Project prioritization depends on balancing condition, funding eligibility, and timing.

Funding programs often target the most deteriorated assets, while agencies aim to intervene earlier. This creates a trade-off: projects may need to wait until conditions worsen to access funding, even when earlier intervention would be preferable.

Outcomes and Lessons

The Rockside Road Bridge Replacement project is currently under construction and will deliver two new bridge structures along a critical arterial corridor in Cuyahoga County. Once complete, the project will replace aging infrastructure that no longer meets

modern design and load standards, improving reliability and ensuring that the corridor can continue to serve high traffic volumes over the long term. By delivering a full replacement rather than incremental repairs, the County is addressing both current structural deficiencies and future capacity needs in a single investment.

From a delivery perspective, the project demonstrates how process-driven projects can be advanced effectively within a structured capital program. Rather than being driven by a single event or decision, the project moved through a pipeline of identified needs, where it was evaluated, deferred, and later advanced as conditions and funding availability changed. This approach allowed the County to manage competing priorities across its bridge network while still maintaining focus on long-term system performance. At the same time, the project highlights the importance of active management within that process, as staff worked to re-engage the project, update plans, and align funding once conditions were favorable.

From a financing perspective, the project illustrates how established innovative financing tools can be used to manage program-level constraints rather than just individual project gaps. The SIB loan allowed the County and NOACA to deliver a larger project without allocating a disproportionate share of annual funding, preserving capacity for other investments in the region. The structure also provided flexibility, enabling the MPO to adjust repayment over time and respond to changes in funding availability. In this context, financing functioned as a tool for balancing the overall capital program, rather than as a one-time solution.



Several lessons emerge for agencies working within similar institutional frameworks:

Use structured processes to manage long-term infrastructure needs.

Formal asset management and prioritization systems can help agencies identify and sequence projects over time, even when funding is not immediately available.

Recognize the trade-off between asset condition and funding eligibility.

Funding programs often prioritize the most deteriorated assets, while agencies aim to intervene earlier. Managing this balance is a key part of project timing.

Leverage flexibility within financing tools.

Features such as early repayment can help agencies adjust to delays or surplus funding, improving overall program efficiency.

Actively manage the project pipeline.

Projects may move in and out of priority depending on condition, funding availability, and financing capacity. Ongoing monitoring and re-engagement are essential to advance projects at the right time.

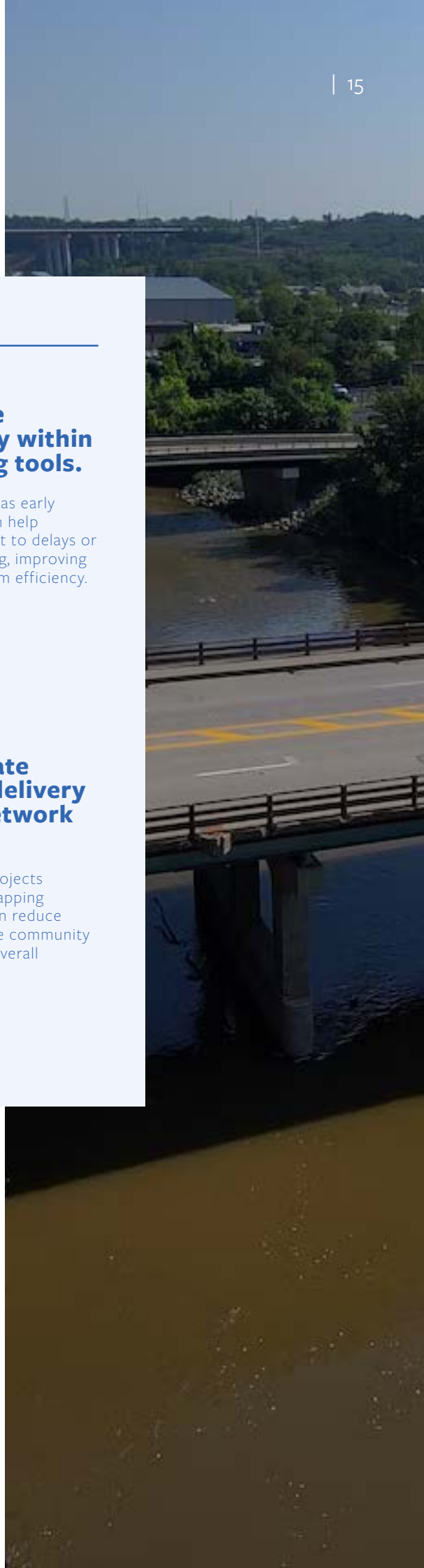
Use financing to maintain program balance.

Tools such as SIB loans can allow agencies to deliver larger projects without displacing other priorities, by spreading costs over time.

Coordinate project delivery at the network level.

Sequencing projects to avoid overlapping disruptions can reduce impacts on the community and improve overall outcomes.

The Rockside project shows how larger agencies can deliver routine but critical infrastructure improvements through established processes and programmatic financing tools. While the project itself was not defined by a single innovation, it highlights how institutional capacity, structured decision-making, and flexible use of financing tools can support consistent and effective delivery over time.



3.2 Jackson School Road Project

TOTAL PROJECT COST

\$24 million

AGENCY CONTEXT

Municipality; ~110,000 residents; metropolitan suburb.

LOCATION

Metropolitan periphery

TYPE OF IMPROVEMENT

Street reconstruction

INNOVATIVE FUNDING OR FINANCING

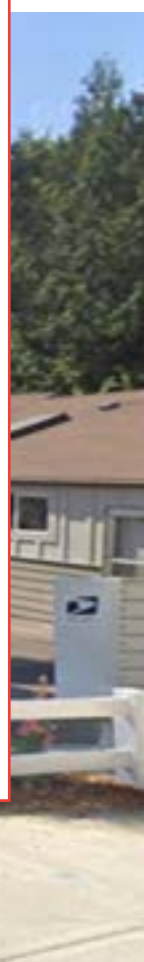
Value Capture

The Jackson School Road Improvement Project in Hillsboro, Oregon, emerged from a long-standing planning process aimed at improving the city's multimodal transportation network. While the corridor had been identified in transportation plans for decades, the project took shape in the early 2000s when it was incorporated into the City's Transportation System Plan and later prioritized through its Bicycle and Pedestrian Capital Improvement Program. Unlike projects driven by acute infrastructure failure or a single catalytic need, Jackson School Road reflects a process-driven approach to capital planning, where projects are identified, evaluated, and advanced as part of a broader pipeline of system improvements. This origin influenced both the scope and trajectory of the project, as it evolved over time through formal planning cycles, community input, and changing design priorities.



Takeaway Summary

- *Define clear criteria for when a project is ready to move from planning to implementation.*
- *Planning-level support does not guarantee project-level consensus as designs become more concrete.*
- *Innovative local funding tools can provide stable revenue but require institutional setup and coordination.*
- *Securing funding does not eliminate delivery risk; non-financial factors often drive timelines.*
- *Anticipate stakeholder opposition early and set clear boundaries for how it is incorporated.*
- *Balance iterative design with clear decision points to avoid prolonged delays and cost escalation.*
- *Stakeholder experience carries across projects and can influence future project delivery dynamics.*



The project consisted of a comprehensive reconstruction of approximately 1.5 miles of a key north-south collector corridor connecting residential neighborhoods, schools, transit, and downtown Hillsboro. Prior to the project, the roadway was characterized by a two-lane configuration with intermittent center turn lanes, incomplete sidewalks, limited lighting, and no dedicated bicycle facilities. The completed project introduced a full suite of multimodal and safety improvements, including continuous sidewalks, protected bicycle facilities, enhanced pedestrian crossings, a center turn lane, upgraded street lighting, and landscaped buffers. In addition, the project integrates substantial supporting infrastructure, such as stormwater system upgrades, culvert replacements, and the undergrounding of utilities, reflecting both regulatory requirements and evolving community preferences.

The primary objective of the project was to improve safety and accessibility for all users while accommodating anticipated growth in traffic and travel demand. The corridor serves several elementary schools, a public park, and transit routes, making it a critical link in the city's local transportation network. The project was designed not only to address existing infrastructure gaps, but also to support long-term mobility goals and create a more balanced, "complete street" environment.

Although the project's scope was relatively modest compared to large-scale infrastructure investments, its delivery reflected a complex and extended development process. Active planning and design began in the mid-2000s, and the project was transferred from a county-led program to the City of Hillsboro in 2015. Construction ultimately began around 2020 and was completed in 2022–2023. Over this period, the project evolved significantly in response to community feedback, design revisions, and expanded scope, contributing to both timeline extensions and cost increases from initial estimates of approximately \$15–16 million to a final cost of roughly \$24 million.

The project was delivered using a traditional design-bid-build approach and funded entirely through local sources, without the use of debt or external financing. This approach reflected the City's broader fiscal strategy, which emphasized low financial risk and reliance on accumulated revenues rather than borrowing. While this strategy simplified the financial structure of the project, it also meant that funding was assembled and held over time, with project delivery ultimately shaped more by planning processes and stakeholder dynamics than by financial constraints.

PROJECT TIMELINE

Early 2000s

Corridor identified in Transportation System Plan.

2005

Project incorporated into Bicycle and Pedestrian Capital Improvement Program.

2010–2015

Planning and early design phases.

2015–2019

Iterative design process.

2020

Construction begins.

2022

Construction completed.



Initiation and Decision-Making

Jackson School Road advanced through Hillsboro's structured prioritization process based on its safety and connectivity benefits. Its origins in formal planning—rather than a triggering event—shaped how risks and decisions were managed throughout development.

As the project moved from planning into development, it evolved from a phased concept into a full corridor reconstruction. Progress was stop-and-start: elements such as roadway width, bicycle facility design, and utility treatment were revised repeatedly in response to stakeholder concerns, each revision requiring additional analysis and approvals. Decision-making was iterative and conditional, balancing technical objectives, available funding, and stakeholder acceptance at each stage.

Projects may be widely supported when considered at a conceptual or system level, but face more detailed scrutiny once designs become concrete and impacts are better understood. Recognizing this distinction can help agencies anticipate where additional engagement and refinement may be required during project development.

Although external funding sources, including county contributions, supported the project's feasibility, they played a secondary role in shaping initiation and decision-making. The project's advancement was primarily driven by internal planning processes and programmatic priorities, with funding availability becoming more relevant in later stages of development.

A key decision point came when the City chose to move forward with the project despite ongoing opposition and the likelihood of continued revisions. By this stage, design had been substantially advanced, funding had been assembled, and further delay would have continued to increase costs and defer other planned investments. The decision to proceed reflected a shift from planning and refinement toward delivery, even as stakeholder concerns remained an active consideration.

Funding and Financing Approach

The Jackson School Road Improvement Project was delivered using a pay-as-you-go approach that relied entirely on local funding sources, without the use of debt, bonds, or federal credit programs. Rather than assembling a complex financing structure, the City of Hillsboro funded the project through a combination of revenues that had been generated and accumulated over time. This resulted in a relatively straightforward financial structure at the project level, with funding largely available prior to construction and supplemented as needed as the project scope evolved.

Although the overall approach was financially simple, the underlying funding sources reflect a set of innovative funding tools—particularly value capture sources—that required institutional setup and policy decisions at the local level. The project was funded through a layered mix of sources, including development-related revenues such as the Transportation Development Tax and legacy traffic impact fees, which capture value from new growth and allocate it toward transportation infrastructure. These sources tied funding directly to system demand and allow growing communities to expand infrastructure without relying solely on traditional tax revenues.

Takeaway 1: Clearly define what it means for a project to be “ready” to move forward.

Projects that emerge from planning processes can advance into capital programs before key risks—such as stakeholder alignment, right-of-way impacts, or design consensus—are fully resolved. Establishing clear criteria for project readiness can help agencies determine when a project is sufficiently defined to proceed to implementation and avoid extended delays during later phases.

The role of stakeholders further illustrates this dynamic. Initial planning processes incorporated community input and helped establish general support for multimodal improvements. However, as the project advanced into design, engagement became more focused on directly affected residents and corridor users, and the level of consensus became more variable. This distinction between broad planning-level support and project-specific acceptance influenced how decisions were made and revisited throughout the development process.

Takeaway 2: Early planning consensus does not guarantee project-level support.

A central component of the funding strategy was the City's Transportation Utility Fee (TUF), a recurring charge applied through utility bills based on estimated roadway usage. Established in 2008, the TUF provides a dedicated and predictable revenue stream to support both pavement management and bicycle and pedestrian capital improvements. As a value capture tool, the TUF was structured to reflect use of the transportation system rather than property value, offering a more direct link between infrastructure demand and funding. While this created a stable funding base at the project level, implementing such a program requires enabling legislation, administrative systems, and sustained political support.

Additional funding sources included contributions from Washington County's Major Streets Transportation Improvement Program, as well as surface water management funds, system development charges, and local service fees. These sources were used to fund specific elements of the project, such as drainage improvements and utility-related work. Contributions from the City's water and parks departments further supplemented the project, reflecting its integrated scope and allowing costs to be distributed across multiple programs. Each funding source was restricted to particular uses, requiring coordination across departments to assemble a complete funding package.

TABLE 2: JACKSON SCHOOL ROAD SOURCES OF FUNDING AND FINANCING (SEE APPENDIX FOR DESCRIPTIONS OF MAJOR FUNDING AND FINANCING SOURCES)

SOURCE	AMOUNT
Local Value Capture & Dedicated Revenues	
Transportation Development Tax (TDT)	\$14,000,000
Transportation Utility Fee (TUF)	\$3,500,000
Traffic Impact Fees (Transit + Roadways)	\$1,761,000
Local Contributions	
Washington County MSTIP	\$4,000,000
Strategic Investment Program (SIP)	\$2,500,000
Hillsboro Water Department	\$2,000,000
Surface Water Management (SDC + Local Fees)	\$760,000
Total Project Funding	\$29,521,000

Takeaway 3: Innovative funding tools can simplify project financing but require institutional capacity to implement.

Sources such as transportation utility fees and development charges can provide stable, locally controlled funding streams for small-scale projects. However, these sources depend on enabling policies, administrative systems, and public acceptance, which can take significant effort to establish even if their use at the project level appears straightforward.

A defining feature of this approach was the high degree of funding availability relative to project delivery. Because revenues had been collected over time, the City was able to advance the project without securing large new funding commitments at a single point. At the same time, this meant that capital was effectively reserved for the project over an extended period, even as the timeline for delivery remained uncertain. As costs increased due to scope changes and inflation, additional funding sources were identified and incorporated without fundamentally altering the overall strategy.

Takeaway 4: Securing funding is not the same as delivering a project.

Even when innovative funding sources provide stable and sufficient revenue, project delivery may still be constrained by factors such as stakeholder dynamics,

design development, and implementation challenges. Funding certainty does not eliminate delivery risk.

Overall, the project demonstrates how a combination of innovative local funding tools—including value capture sources such as utility fees and development charges—can be used to deliver a small-scale infrastructure project without financing. At the same time, it highlights the trade-offs of this approach: while financially low-risk and administratively simple at the project level, it can limit the speed and flexibility of delivery, particularly when non-financial factors affect project timelines.

Process and Obstacles

The Jackson School Road Improvement Project was not constrained by funding, but by the process of moving from design to construction. While the project had funding in place, progress was shaped by stakeholder dynamics and repeated design revisions. As a result, the project advanced in a stop-and-start manner, with periods of progress followed by delays and redesign.

Community opposition was the main challenge. This opposition was not widespread, but it was sustained and focused on specific issues such as roadway width, tree removal, and right-of-way impacts. These concerns required the project team to revisit key design elements multiple times. Over time, the project changed significantly, including adjustments to bicycle facilities, roadway configuration, and the addition of features such as underground utilities. Each revision required additional analysis, coordination across departments, and new approvals, extending the timeline.

Takeaway 5: Plan for stakeholder opposition and set clear limits on how it is incorporated.

Community pushback is common, even for projects that have been prioritized through formal planning processes. Agencies should anticipate opposition early and define how it will be incorporated into decision-making—for example, by setting clear engagement phases or limiting the number of redesign cycles. Without these boundaries, feedback can extend timelines and significantly reshape project scope.

The iterative design process added both value and complexity. Continued engagement led to improvements in safety and design, but it also extended the timeline significantly. The project took nearly two decades from active planning to completion. During that time, costs increased from roughly \$15–16 million to about \$24 million, driven by both inflation and expanded scope, including utility undergrounding, stormwater requirements, and coordination with water and parks projects. The need to align multiple funding sources and departments further increased complexity, while the pay-as-you-go funding approach meant that capital remained tied to the project as delays continued.

Takeaway 6: Iteration improves projects, but requires clear decision points to avoid prolonged delays.

Ongoing design refinement and stakeholder engagement can lead to better outcomes, especially for projects in established communities. However, without clear thresholds for when to finalize design and move forward, iteration can extend timelines and increase costs. Agencies should balance flexibility with discipline by defining when a project is sufficiently developed to proceed to construction.

Stakeholder dynamics in this project were also shaped by experience from previous projects in the same community. A prior project had generated significant opposition, and many of the same stakeholders carried that experience forward. As a result, opposition to Jackson School Road was more organized and effective from the outset, with participants already familiar with the process, technical arguments, and points of influence. This contributed to the sustained nature of the opposition and the project's extended timeline.

Takeaway 7: Stakeholder capacity, often driven by prior opposition, can influence future projects.

Communities build experience in engaging with infrastructure projects over time.

This capacity does not always come from opposition, but in practice it often does. In this case, stakeholders who had opposed a previous project applied the same strategies and knowledge to Jackson School Road. Agencies should consider how experience from earlier projects may shape engagement dynamics in future efforts, particularly when projects are sequenced within the same area.

In the end, the City chose to move forward once the design was sufficiently advanced and funding was in place. At that point, further delay would have continued to increase costs and hold up other planned projects. This decision marked a shift from continued refinement to implementation, allowing construction to proceed even though not all concerns had been resolved.

Outcomes and Lessons

The Jackson School Road Improvement Project ultimately delivered a complete multimodal corridor, including sidewalks, protected bicycle facilities, upgraded lighting, and a safer roadway configuration. The project also incorporated stormwater improvements, utility undergrounding, and coordination with parks and water infrastructure, resulting in a more comprehensive outcome than originally planned. These improvements enhanced safety, accessibility, and connectivity for residents, particularly for nearby schools and transit users.

From a delivery perspective, the project shows how process-driven projects can evolve over time to achieve broader outcomes. Rather than remaining a limited, phased improvement, Jackson School Road was ultimately delivered as a full corridor reconstruction. Iterative design and stakeholder engagement helped refine the project and improve certain design elements, but also extended the timeline significantly and contributed to increased costs. The project illustrates the trade-off between allowing time for refinement and maintaining momentum toward delivery.

From a funding perspective, the project highlights how innovative local funding tools can support delivery without the need for financing. The City relied on value capture sources such as transportation utility fee and development-related charges, along with contributions from multiple departments. These tools provided a stable funding base and allowed the City to deliver the project without taking on debt. At the same time, the pay-as-you-go approach limited flexibility to accelerate delivery, as funds were accumulated and held over time while the project advanced through design and engagement.



Several lessons emerge for agencies considering similar approaches:

Define what it means for a project to be ready to move forward.

Projects that emerge from planning processes may advance before key risks, such as stakeholder alignment or design consensus, are resolved, leading to delays later in development.

Use innovative funding sources to build stable local funding capacity.

Sources such as utility fees and development charges can provide predictable funding, but require institutional setup and coordination.

Balance iteration with clear decision points.

Ongoing refinement can improve outcomes, but agencies should establish thresholds for moving forward to avoid prolonged delays.

Recognize that planning-level support does not guarantee project-level agreement.

Projects that are broadly supported in planning stages may face increased scrutiny as designs become more detailed and impacts more visible.

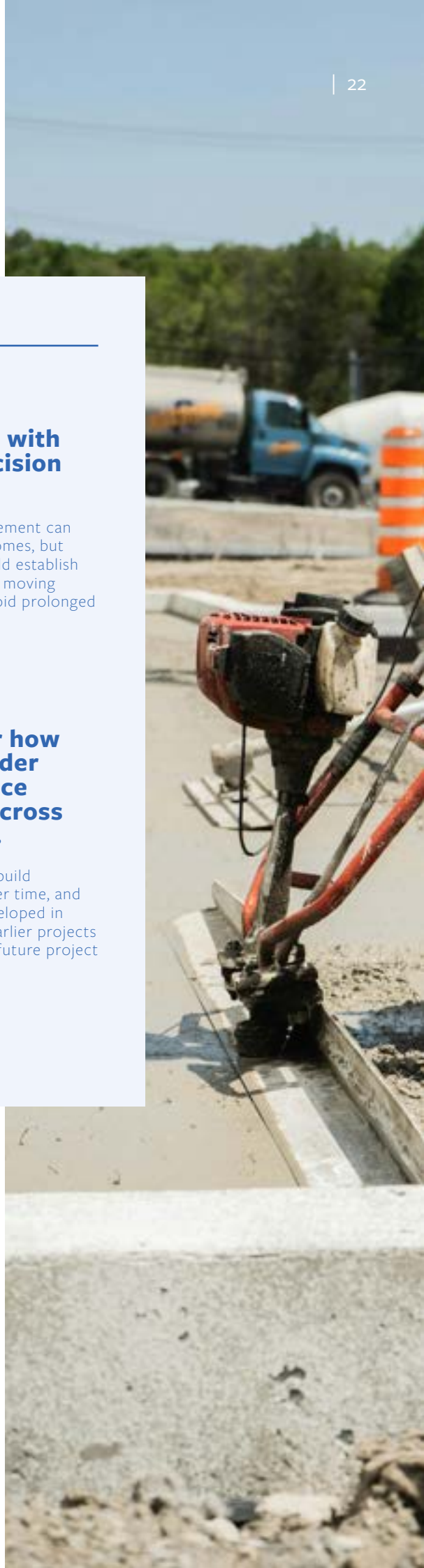
Understand that securing funding is not the same as delivering a project.

Even when funding is available, delivery may be delayed by stakeholder dynamics, design changes, and coordination challenges.

Consider how stakeholder experience carries across projects.

Communities build knowledge over time, and strategies developed in response to earlier projects can influence future project delivery.

Hillsboro's experience shows that small-scale projects can be delivered using innovative funding tools and coordinated planning approaches. At the same time, it underscores that delivery outcomes are often shaped more by process and stakeholder dynamics than by funding availability alone.



3.3 Escanaba Street Reconstruction

TOTAL PROJECT COST

\$63,635,207

AGENCY CONTEXT

Municipality; ~15,000 residents; rural community.

LOCATION

Rural town

TYPE OF IMPROVEMENT

Water line upgrades, street resurfacing

INNOVATIVE FUNDING OR FINANCING

State Infrastructure Bank

Escanaba's Street Reconstruction project consolidated multiple infrastructure assets into a single project framework to more efficiently phase critical infrastructure improvements. The City of Escanaba long sought to improve its streetscape design to enhance its downtown appearance and improve multi-modal safety. Furthermore, beginning around 2017–2018, the City of Escanaba (the City) faced increasing regulatory pressure related to both its drinking water and wastewater systems. On the drinking water side, the City had a significant number of lead-impacted service lines associated with aging infrastructure. On the clean water side, Escanaba was placed under an administrative consent order to address high levels of infiltration and inflow in its sanitary sewer system, which were contributing to treatment challenges and discharge impacts to Lake Michigan. These were not discretionary improvements; they were compliance-driven investments tied to environmental regulation and public health. Escanaba was able to deliver all of these infrastructure needs—streetscape design and improvements to drinking water and wastewater systems—in one integrated project, in part through leveraging the benefits of the Michigan SIB program.



Takeaway Summary

- *Use required infrastructure work to address adjacent systems and deliver more complete outcomes.*
- *Advance projects once a core funding base is secured, even if smaller gaps remain.*
- *External partners can help identify funding and financing tools beyond standard options.*
- *Non-routine projects may require exploring less conventional funding sources and financing tools.*
- *Recurring revenue streams can be leveraged to accelerate project delivery.*
- *Maintaining up-to-date infrastructure data improves project readiness and reduces delivery risks.*
- *Project size influences both contractor interest and delivery constraints, especially in smaller markets.*



Escanaba is a small Upper Peninsula community of fewer than 15,000 residents. In that context, the resulting capital program, totaling slightly more than \$60 million, represented a substantial undertaking for the City. However, the project remained relatively small, particularly from a transportation perspective, where the financed portion of the work was \$4 million.

Although the project was driven by compliance, City leadership recognized that simply meeting minimum regulatory requirements would leave other infrastructure issues unresolved. In downtown Escanaba, utility deficiencies overlapped with long-standing discussions about, road conditions, streetscape improvements and traffic calming. Rather than addressing these needs separately, the City pursued a coordinated “one-dig” approach: if streets were opened for utility replacement, they would also be reconstructed more fully and improved where feasible. The project’s innovation therefore lies not in its origin, but in how the City used a mandatory investment to deliver broader infrastructure and community benefits.

Technically, the project was a bundled capital program comprising water main replacement, lead service line replacement, sanitary sewer rehabilitation, lift station upgrades, stormwater improvements, and full-width street reconstruction and resurfacing, along with selected downtown streetscape elements. The program advanced in phases beginning in 2023, with construction starting in 2024 and expected to conclude in 2026. Delivering a program of this scale required coordinating multiple contractors, sequencing work across the city, and managing construction within a short seasonal window typical of northern climates.

The project’s funding structure reflected a combination of large-scale grant support and targeted financing. The core utility work was supported through the State of Michigan by approximately \$40 million in Drinking Water State Revolving Fund grants and roughly \$19 million in Clean Water State Revolving Fund grants. However, these sources could only fund limited restoration directly associated with the utility work, typically the portion of the street disturbed by trenching. To enable full-width street reconstruction and related improvements, the City used approximately \$4 million in SIB financing, repaid through a portion of its annual Act 51 transportation revenues. While modest relative to the total project cost, this financing played a critical role in achieving a more complete outcome.

Initiation and Decision-Making

Escanaba’s project was initiated in response to regulatory requirements rather than discretionary planning. Beginning around 2017–2018, the City faced violations related to both its drinking water and wastewater systems, which established a clear obligation

PROJECT TIMELINE

2017–2018

Regulatory issues identified.

2023

SIB financing identified and secured.

2018–2019

Project planning initiated.

2024

Construction begins.

2022

Core grant funding secured through SRF programs.

2026

Expected project completion.

to act and defined the initial scope of work. The central question was not whether to undertake the project, but how to structure and deliver it effectively within a constrained local capacity. Decision-making was led by a small administrative group composed of the City Manager, water and wastewater staff, and the City’s consulting engineer, allowing the City to move quickly from planning to implementation.

The project initially developed to address drinking water infrastructure and clean water compliance. As planning progressed, the City and its consulting engineer recognized that the scale of underground work would require extensive excavation across multiple areas. This prompted a shift in approach. If streets were already being opened for utility replacement, there was an opportunity to address adjacent infrastructure at the same time, including full-width street.



Takeaway 1: Leverage adjacency between infrastructure systems.

When one type of infrastructure work requires disruption, such as utility replacement beneath a roadway, it can create an opportunity to address adjacent

systems more efficiently. Coordinating improvements across sectors can reduce duplication, improve cost efficiency, and produce more complete outcomes.

funding and financing tools that may not be immediately visible to project sponsors, particularly in smaller jurisdictions.

As the project scope expanded, a funding gap emerged related to non-grant-eligible street work. The City had the option to issue municipal bonds to cover the remaining gap. However, rather than immediately pursuing that path, the City chose to explore alternatives. Importantly, the City Council approved moving forward with the bidding process before the final financing solution was identified, allowing the project to proceed without delay while funding options were still being evaluated.

Takeaway 2: Advance projects once a core funding base is secured, even if smaller gaps remain.

When a project has secured the majority of its funding, it may be appropriate to proceed with procurement and implementation while identifying solutions for remaining gaps. This approach allows agencies to preserve coordination across scopes and avoid delays, provided that a clear and credible fallback option exists.

The eventual identification of the SIB as a financing tool illustrates the importance of external expertise in the decision-making process. The SIB was not initially part of the City's strategy; it was introduced by the consulting engineer based on experience with other jurisdictions. Once identified, the City evaluated SIB alongside its default bonding option and determined that it offered advantages in terms of speed, simplicity, and fit for the project's scale.

Takeaway 3: External partners can expand the range of available solutions.

Consultants, peer agencies, and professional networks can play a key role in identifying

Funding and Financing Approach

Escanaba's funding and financing strategy was built on a foundation of State Revolving Fund (SRF) grants administered by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). The City secured approximately \$40 million in Drinking Water State Revolving Fund American Rescue Plan (DWSRF ARP) funding and roughly \$19 million in Clean Water State Revolving Fund (CWSRF ARP) funding. These programs are designed to support water and wastewater infrastructure improvements, particularly those tied to regulatory compliance, and typically provide grant or low-cost financing for eligible utility work.

These SRF funds were critical in enabling the project. They covered the majority of costs associated with water main replacement, lead service line removal, and sanitary sewer rehabilitation, effectively establishing the financial foundation of the overall program. However, SRF funding was limited in scope: it generally only supports restoration directly tied to utility work, such as trench-level paving. As Escanaba expanded its project to include full-width street reconstruction and streetscape improvements, a gap emerged for these non-eligible components.

For a small, rural community like Escanaba, the range of available financing tools was more limited than in larger jurisdictions that can absorb gaps through general fund allocations or established capital programs. While municipal bonds were a viable option, the City chose to explore alternatives better suited to the project's scale and timing—making the identification of a less commonly used tool a practical necessity.

The SIB ultimately emerged as the preferred solution. Escanaba secured \$4 million in SIB financing, structured as two loans with 20- and 30-year maturities at an interest rate of approximately 3.25 percent. Compared to traditional bonding, the SIB offered a faster and more streamlined process with lower transaction costs, making it well suited to a relatively small financing need within a much larger project. While modest in size relative to the total project cost, the SIB loans were essential in enabling full-width street reconstruction and ensuring that the benefits of the "one-dig" approach could be realized.

Takeaway 4: Non-routine or extraordinary projects may require looking beyond standard funding tools.

When projects exceed the scale or structure of typical capital programs, agencies may need to explore less conventional funding and financing options. Familiar tools such as bonding may remain viable, but alternative programs can offer better alignment with project-specific needs.

TABLE 3: ESCABANA SOURCES OF FUNDING AND FINANCING (SEE APPENDIX FOR DESCRIPTIONS OF MAJOR FUNDING AND FINANCING SOURCES)

SOURCE	AMOUNT
State Funding	
Drinking Water State Revolving Fund (ARP Grants)	\$40,000,000
Clean Water State Revolving Fund (ARP Grants)	\$19,000,000
State Financing	
SIB Loan	\$4,000,000
Total Project Funding/Financing	\$63,000,000

A critical component of Escanaba's approach was its use of the State of Michigan's Act 51 transportation revenues as the repayment source for the SIB loans. These state-distributed funds provided a predictable annual revenue stream for road maintenance and construction. By allocating a manageable portion of this funding to debt service, the City was able to support financing without overcommitting its future budget.

In practice, this approach allowed Escanaba to accelerate work that would otherwise occur incrementally. While the City did not formally consider a pay-as-you-go

strategy as an alternative for this project, the contrast is instructive. With approximately \$600,000 per year available for capital street work, Escanaba would typically reconstruct only a small number of blocks annually. By leveraging financing backed by this recurring revenue, the City was able to complete a larger, coordinated set of improvements in a single program rather than spreading them over many years.

Takeaway 5: Recurring revenues can be leveraged to deliver projects sooner.

Stable funding streams can be used to support financing that allows projects to move forward all at once, rather than being spread out over many years.

The effectiveness of this approach depended on several enabling conditions. First, the City had already secured the majority of project funding through SRF grants, limiting the size and risk of the financing gap. Second, Act 51 revenues provided a reliable repayment source. Third, the availability of an active SIB program through the Michigan Department of Transportation offered a financing tool suited to smaller borrowing needs.



Process and Obstacles

Escanaba's project introduced a range of technical, administrative, and delivery challenges tied to coordinating multiple infrastructure systems within a single program. Many of the earliest challenges were technical. The City was working with aging infrastructure, including water and sewer systems dating back more than a century, often with incomplete or uneven documentation. While some systems, such as stormwater, were relatively well understood, others were not. In one instance, crews uncovered a water main that was more than 100 years old and had not been included in the original scope. The City chose to replace it, requiring additional funding and adjustments during construction.

Although modest in absolute terms, the project represented one of the largest infrastructure efforts in the region. Its size helped attract contractors from outside the immediate area, but also placed significant demand on a limited regional labor pool. In some cases, progress was constrained by subcontractor availability, such as when paving work was delayed simply because the only available crew could not mobilize until the next construction season.

➔ Takeaway 6: Maintain accessible and up-to-date infrastructure information to support project readiness.

Having current plans, system records, and data readily available can significantly speed up project development and reduce surprises during construction. While maintaining this information requires ongoing effort, it allows agencies to respond more quickly when opportunities or needs arise and reduces the need for additional analysis during delivery.

The City anticipated unknown conditions and built contingency into the project budget. This included allowances for underground structures, unexpected materials, and other potential complications. While some issues such as buried fuel tanks did emerge, the contingency proved sufficient and, in some areas, conservative. The City is now working with the funding agency to use remaining contingency funds to extend improvements further along the corridor.

The structure of SRF funding introduced additional administrative complexity. Because funding is reimbursement-based and tied to eligibility requirements, the City had to distinguish between grant-eligible and non-eligible work within the same contracts. This required detailed tracking of quantities and coordination between the City, contractors, engineers, and the funding agency to process reimbursements.

Procurement and construction presented further challenges, particularly given Escanaba's rural context.



➔ Takeaway 7: Project size influences both competition and delivery conditions.

Larger projects can attract more bidders, particularly from outside the local area, but may also strain regional contractor capacity. Agencies should consider how project scale affects both market interest and the availability of specialized labor.

To manage procurement, the City divided the work into multiple contracts aligned with different components of the project. This increased participation by allowing contractors to bid on portions of the work, but also introduced coordination challenges across teams working in parallel. Sequencing activities across multiple contractors required ongoing management, particularly when delays in one area affected progress in another. More broadly, many of the challenges encountered were not driven by a single issue, but by the cumulative complexity of delivering a coordinated, multi-component project with limited internal capacity.

Outcomes and Lessons

Escanaba's project is still nearing completion, but it has already delivered substantial improvements across multiple systems. The City has replaced lead service lines, upgraded aging water mains, and advanced sewer improvements required for regulatory compliance. At the same time, the project delivered full-width street reconstruction and targeted streetscape improvements, improving roadway quality, safety, and the downtown environment. By coordinating these efforts, the City reduced the need for future disruptions and avoided piecemeal upgrades.

From a delivery perspective, the project shows how compliance-driven projects can be structured to achieve broader outcomes. Rather than limiting the scope to minimum requirements, Escanaba used the opportunity created by utility work to address adjacent infrastructure needs, resulting in a more complete and durable outcome.

From a financing perspective, the project highlights the role of targeted tools within a larger funding structure. The SIB loans represented a small share of total costs but were essential in enabling full street reconstruction and completing the "one-dig" approach. By pairing large grant funding with a modest financing tool, the City was able to close a critical gap without overextending its financial capacity.

Several lessons emerge for agencies considering similar approaches:

Use required infrastructure work to address adjacent needs.

Coordinating improvements across systems can produce more complete and cost-effective outcomes.

Use recurring revenues to accelerate delivery.

Leveraging predictable funding streams can allow agencies to complete projects upfront rather than over time.

Build on a strong funding foundation.

Having most funding secured allows smaller financing tools to be used strategically to close gaps.

Plan for uncertainty and maintain flexibility.

Contingency and adaptability during construction help manage unknown conditions and create opportunities to expand scope.

Move forward while refining financing when appropriate.

Advancing procurement before finalizing all funding can help maintain delivery timelines when risks are manageable.

Maintain accessible and up-to-date system information.

Good data and planning can reduce delays and improve project execution.

Escanaba's experience shows that even compliance-driven projects can be structured to deliver broader benefits. By combining grant funding, targeted financing, and coordinated delivery, smaller communities can turn required investments into more impactful infrastructure programs.



3.4 Napa Valley Transportation Authority Vine Transit Maintenance Facility Project

TOTAL PROJECT COST

\$40.6 million

AGENCY CONTEXT

Regional transit authority; ~132,000 residents; rural county.

LOCATION

Napa County, CA (rural)

TYPE OF IMPROVEMENT

New facility

INNOVATIVE FUNDING OR FINANCING

Layered capital (state/local and federal funds, TIFIA loan)

The Napa Valley Transportation Authority (NVT or Vine Transit) replaced an outdated, leased transit facility with a new 28,000 square foot bus operations and maintenance facility in Napa County, California. Led by a team of just five staff with external financial advisors, the \$40 million project delivered a modern workplace for more than 100 employees, an emergency operations center, and charging and fueling infrastructure to support Vine Transit's transition to a zero-emission fleet.

What made the project notable was how it was delivered. NVT sequenced site control, facility development, and innovative financing despite limited internal capacity and significant uncertainty around a primary funding source. When litigation delayed the regional tolling revenues that were expected to cover roughly half the project cost, NVT used a TIFIA Rural Project Initiative loan as a gap-financing mechanism, which kept the project on track.



Takeaway Summary

- *Acquiring land outright reduces federal, and state involvement early in the project.*
- *State and local revenue should serve strategic roles in a project delivery.*
- *Financial advisors improve an agency's internal capacity and lower a project's risk profile.*
- *TIFIA credit can serve as a timing tool, not just a funding source, to bridge funding streams.*



Initiation and Decision-Making

Champion leadership was the decisive factor that moved The NVTA project originated from operational constraints associated with NVTA's existing leased facility. Although relatively cost-effective in the near term, the outdated facility was not well suited to NVTA's longer-term operational needs. Maintenance capacity was severely limited, with approximately 2.5 bays serving a fleet of roughly 70 vehicles. This constrained vehicle service efficiency and contributed to vehicle downtime that impacted their ability to run revenue service. Administrative and dispatch functions were also strained by limited space, with mobile trailers serving to accommodate staff growth and day-to-day operation facilities. By 2011 authority leadership concluded that the facility had become functionally obsolete and that continued reliance on a leased site limited NVTA's ability to modernize critical systems or make long-term capital improvements.

A new facility became a strategic priority, allowing NVTA to align its physical infrastructure planning with anticipated service growth and long-term operational needs. Rather than viewing the issue as an isolated maintenance problem, NVTA considered it as a broader institutional constraint that impacted system capacity, asset control, and future readiness. Between 2012 and 2015, NVTA completed site feasibility and land planning, identified candidate locations that could support the industrial and operational requirements of a replacement facility. This early planning period was important because it allowed NVTA to clearly define the project need before determining how the full capital program would ultimately be funded or financed.

In 2017, NVTA acquired approximately eight acres of industrial land outside of Napa using accumulated local reserves rather than federal funds—a decision that preserved flexibility and avoided the procedural complexity that accompanies federal involvement in real property. Shortly after completing the initial site design, however, state policy intervened: the California Air Resources Board's 2018 Innovative Clean Transit regulation required all public transit fleets to transition to zero-emission vehicles by 2040, sending NVTA back to redesign the site to include the necessary electrical capacity and charging infrastructure.



Takeaway 1: Acquire land outright reduces federal, and state involvement

Purchasing land completely, without financing or use of grants, can reduce the administrative burdens and complexities of involving federal and state funds.

NVTA positioned facility ownership not simply as a capital improvement, but as a prerequisite for operational continuity, service growth, and state regulatory compliance. The constraints of the leased facility and the inability to justify long-term investment in a non-owned asset led NVTA to pursue development of a new, owned operations and maintenance facility.

Funding and Financing Approach

NVTA initially pursued a conventional funding strategy that combined state, local and Federal Transit Administration (FTA) grant funds. However, the project's size and scope made it too large for a single discretionary grant and a series of smaller grants was likely unfeasible to fulfill the total capital requirement. The project's capital plan totaled approximately \$40 million, roughly \$30 million in construction costs and \$10 million for land acquisition. California's Transportation Development Act (TDA) program revenue, funded by approximately 2% of the ¼ cent state sales tax revenues played a central role in the capital plan. TDA funds are allocated to regional transportation authorities based on their respective county population base, providing NVTA a dedicated annual revenue stream to fund regional transportation priorities.

Between 2011 and 2017, NVTA preserved a portion of unused TDA funds to purchase land without the need for financing, which eliminated the need for additional grants or debt. This advanced a critical component of the project early and removed state or federal participation in the land purchase. This strategy reduced procedural complexity associated with state and federal interest in the property. A key inflection point occurred when Regional Measure 3 (RM3), a voter-approved bridge toll was delayed due to a legal challenge. This created an approximately \$20 million gap in NVTA's capital plan. In response, NVTA secured a Letter of No Prejudice from the Metropolitan Transportation Commission which allowed NVTA to proceed with eligible expenditures in advance of receiving RM3 funds. This preserved delivery momentum so long as NVTA identify an alternative, longer-term financing tool to address the unexpected shortfall.



Takeaway 2: State and local revenue serve strategic roles in a project

Local revenue streams can serve multiple roles within a single project, including upfront capital for land acquisition, interim debt service coverage, or debt service repayment over the long-term repayment.

NVTA addressed the approximate \$20 million gap, should RM3 be deemed unlawful through the TIFIA credit program. TIFIA became the preferred gap-financing tool based on both its favorable interest rate and repayment structure. Compared with credit alternatives through the California Infrastructure and Economic Development Bank (iBank) and private bank credit, TIFIA offered a materially lower borrowing cost, 1.01 percent compared to alternative financing rates between 7 to 9 percent. This difference made TIFIA the most financially viable option and advanced the project without significantly higher debt service obligations.

TIFIA's structural terms aligned well with NVTA's risk management needs. The 10-year interest-only period deferred principal repayment until 2033, which substantially reduced near-term fiscal pressure until RM3 litigation was resolved. To close the deal despite that uncertainty, NVTA pledged farebox and TDA revenues as a backstop, to be replaced by RM3 if adjudicated favorably. NVTA drew \$18 million against a \$20 million authorization; annual interest-only payments of \$184,000–\$200,000 remained manageable. Before the interest-only period ended in 2033, NVTA planned to pay down approximately \$10 million in order to keep long-term debt service within range a manageable range.

The TIFIA loan functioned not simply as a borrowing tool but as a timing mechanism within NVTA's broader capital strategy. TIFIA's low interest rate, combined with the deferred principal repayment period provided NVTA the timing flexibility they needed to bridge RM3 uncertainty. This structure helped NVTA develop alternative repayment pathways until RM3 was adjudicated.

PROJECT TIMELINE

2011

NVTA decision to develop its own facility.

2012 – 2013

Project feasibility and land planning.

2014 – 2015

Candidate sites identified.

2017

Land acquired, facility design and engineering initiated.

2018

TIFIA Letter of Interest submitted.

November 2021

TIFIA approval.

February 2022

Construction begins.

July 2024

Facility opens.

**TABLE 4: NVTa SOURCES OF FUNDING AND FINANCING
(SEE APPENDIX FOR DESCRIPTIONS OF MAJOR FUNDING
AND FINANCING SOURCES)**

SOURCE	AMOUNT
State/Local	
TDA – Local Transportation Fund (LTF) / State Transit Assistance (STA)	\$10,142,415
State Transit Assistance State of Good Repair (SGR)	\$86,924
Senate Bill 1 Local Partnership Program (SB1 LPP)	\$1,100,000
Federal	
Bus and Bus Facilities Grant Program- FTA 5339(a)	\$843, 073
FTA FHWA Flex	\$1,999,424
Urbanized Area Formula Funds- FTA 5307 FY21	\$2,435,279
TIFIA Rural Project Initiative Loan	\$18,149,699
Other	
RM3 Allocation or Private Bank Loan	\$5,576,098
Total Project Funding/Financing	\$40,332,912

Several enabling conditions allowed NVTa to secure and implement this financing approach. NVTa's stable, dedicated state sales tax provided approximately \$12 million annually, to satisfy TIFIA's debt service obligations alongside farebox revenue contributions. Additionally, NVTa met federal creditworthiness standards, including obtaining credit ratings and modifying its Joint Powers

Authority (JPA) agreements to address BAB concerns to prevent member authority withdrawal before long-term financial commitments were satisfied.

Process and Obstacles

Delivery of the NVTa facility project involved a series of procedural, procurement, and institutional challenges. One of the earliest obstacles emerged during the project's environmental review. Although the project is located on industrially zoned land and initially advanced under a more limited review pathway, a complaint from an adjacent property owner escalated the project to a full Environmental Impact Report (EIR). This lengthened the project timeline and required additional documentation to prove the project was not causing environmental harm, but it did not fundamentally alter the project's scope or feasibility. This illustrates how stakeholders can reshape procedural requirements even for projects sited in areas with comparatively limited community conflict, like industrial areas.

Procurement and compliance requirements introduced an additional layer of difficulty once federal funding and financing was introduced. Buy America requirements limited sourcing flexibility and, in some cases, required NVTa to identify compliant suppliers or pursue waivers where compliance was not feasible. These constraints became especially significant for the equipment needed to support the facility's transition to fleet electrification. Key components of electrical switchgear had limited compliant suppliers which extended the ordering lead times and contributed to schedule delays. Broader supply-chain disruptions during the COVID-19 period compounded these pressures and affected the timing of facility completion.

NVTa managed the project with a small internal team of roughly five staff, who also maintained the day-to-day operations. Although that team could manage the demands of project development, TIFIA's federal requirements introduced a distinct layer of complexity that exceeded their experience and capacity. Federal credit required a multi-stage process, including a Letter of Interest, formal application, underwriting, legal documentation, and an extended federal review period. This created both a steep learning curve and a substantial administrative burden that risked securing the TIFIA loan. NVTa hired external financial advisors to navigate this process, structure the funding and financing strategy and to close the TIFIA transaction. This reduced execution risk and provided specialized transaction capacity that internal staff alone would have had difficulty replicating.



Takeaway 3: Experienced financial staff or external financial advisors can improve an agency's internal capacity and lower a project's risk profile.

Experienced financial advisors help public agencies reduce the learning curve and administrative burden associated with complex federal financing tools.

Additionally, BAB required NVTa to amend its governance agreements to address long-term repayment stability concerns. As a Joint Powers Authority, NVTa needed to demonstrate that its institutional structure and revenue commitments would remain stable over the loan term. To do this, NVTa modified its JPA to restrict member withdrawal until federal debt was repaid. NVTa also had to obtain credit ratings from both Moody's and S&P to satisfy federal lending standards and prove bankability of the transaction. Following financial close, NVTa became subject to ongoing federal oversight, including regular reporting on procurement, construction progress, and schedule performance. For public agencies, federal credit programs can expand delivery options but also require a project governance model to satisfy BAB's legal and ongoing project reporting requirements that extend beyond financial close.

Outcomes and Lessons

NVTa's opened its new operations and maintenance facility in April 2024. The facility replaced an undersized, leased facility that had constrained maintenance productivity, administrative functions, and longer-term system planning. The new facility includes six transit bays, each equipped with hydrogen fueling and electrification infrastructure to support Vine transit to transition to a fully zero-emission fleet. The facility includes a new bus wash, a regional meeting center with rooftop solar, and workspaces to support 100 employees including modern amenities like a wellness and lactation room. The project addressed both long-standing operational limitations and newer technical requirements associated with California's transition to zero-emission vehicles.

From a funding and financing perspective, the project illustrates how delivery can be sustained despite uncertainty in a primary revenue source. Litigation-



related delays to RM3 funding created a substantial gap in the capital plan, but NVTa maintained project momentum by combining a Letter of No Prejudice and locally-controlled TDA reserves with a TIFIA loan that was structured to bridge the period of uncertainty. In this case, TIFIA functioned not only as a source of gap financing but also as a timing tool within the broader capital plan, allowing NVTa to advance the project while RM3 was debated.

The case highlights the value of sequencing early project decisions in ways that preserve flexibility later. NVTa's use of local TDA reserves to acquire land outright reduced reliance on state and federal funding participation at a critical early stage and allowed NVTa to maintain greater control over project timing and site development. This approach also limited the added procedural complexity that can accompany federal participation in real property acquisition. An additional lesson concerns the administrative capacity that federal credit program require. Not having this specialized expertise in-house, NVTa chose to hire external

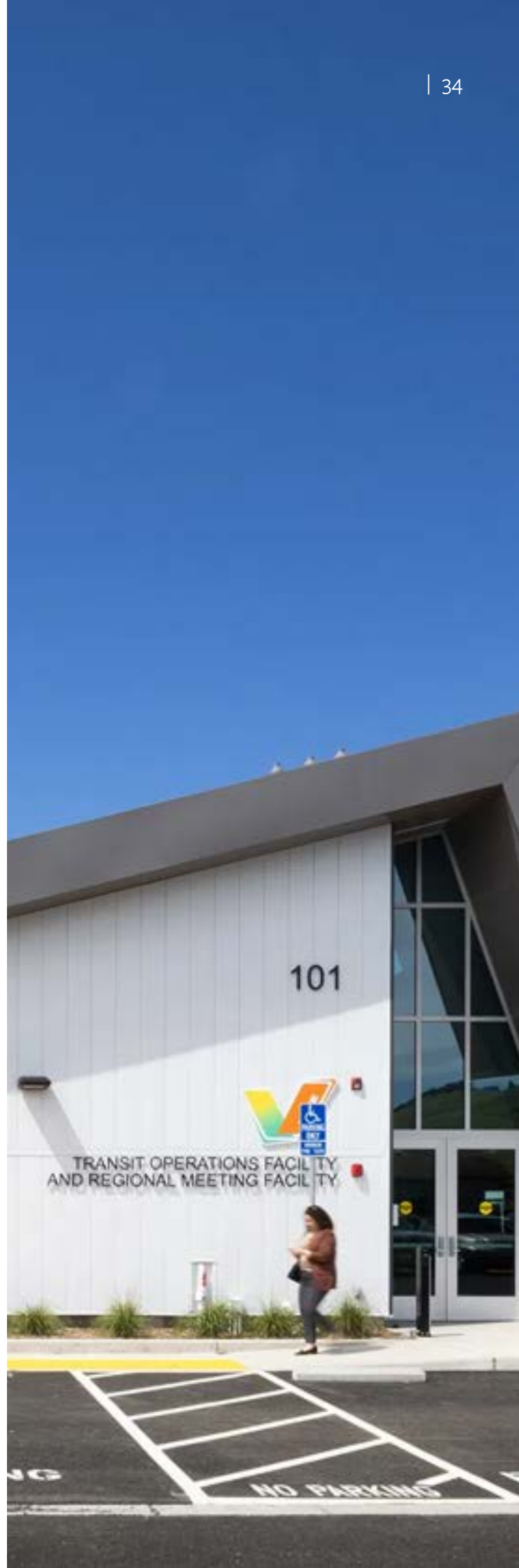
financial and legal advisors to navigate a process that is substantially far more complex and time intensive than traditional grant administration. For a small authority with limited staff, these advisors reduced the learning curve associated with federal credit programs and helped NVTA through the financial planning, transaction structuring, intergovernmental agreements amendments, and completing credit ratings that demonstrate long-term repayment stability.

The TIFIA loan gave NVTA flexibility to align its financing structure with the timing and reliability of anticipated revenue streams, including the possibility that RM3 funds would be significantly delayed or be deemed an ineligible funding source. TIFIA's 10-year interest-only period reduced near-term debt service to a manageable level which allowed NVTA to advance the project while RM3 was being adjudicated.

Takeaway 4: TIFIA can serve as a timing tool, not just a funding source.

A lower cost of capital is a key advantage of federal credit programs. So are the flexible repayment terms, especially when borrowers have multiple repayment tools.

For public agencies, the NVTA case shows that federal credit instruments can be a practical tool to sustain project delivery during periods of funding uncertainty, but only when there is still a viable repayment source, strong governance, and suitable administrative expertise.



3.5 Mount Vernon Library Commons

TOTAL PROJECT COST

\$64 million

AGENCY CONTEXT

Municipality; ~40,000 residents; small urban community.

LOCATION

Mount Vernon, WA (small town/rural)

TYPE OF IMPROVEMENT

Transit-oriented Civic Facility

INNOVATIVE FUNDING OR FINANCING

TIFIA loan, complex capital stack

Mount Vernon Library Commons (MVLCC) emerged from a clear and pressing set of community needs. After decades of vulnerability to flooding, downtown Mount Vernon's long-term viability depended first on the successful construction of a federal floodwall system. With that protection in place, the City of Mount Vernon (the City) faced a new challenge: how to activate and revitalize its historic core so that it could thrive economically and socially. At the same time, the existing public library was outdated and undersized, and the community lacked flexible gathering space capable of serving both everyday civic functions and emergency response needs. The City sought to create a catalytic downtown anchor that would support economic development, enhance transit connectivity, and strengthen community resilience. The MVLCC was designed to meet those needs by consolidating civic services, attracting activity to the city center, and positioning the area for long-term waterfront redevelopment.



Takeaway Summary

- *Self-driven projects often require stronger leadership and advocacy to assemble funding.*
- *Define the project objective clearly before identifying financing tools.*
- *Regional meetings and conferences help reveal funding opportunities.*
- *Large projects can build institutional knowledge that supports future initiatives.*
- *Innovative financing tools require flexibility and iteration with funding partners.*
- *Address staffing and advisory capacity early when managing complex capital stacks.*



Technically, the MVLC is a multi-use, transit-oriented civic facility spanning roughly half a city block in downtown Mount Vernon, adjacent to Skagit Station. It houses a public library, community center, meeting rooms, a commercial kitchen, and public restrooms, alongside a 269-space parking structure with 76 EV charging stations. The building is all-electric and Passive House-certified, with a photovoltaic array and design features targeting significant emissions reductions; it also serves as a resilience hub for emergency shelter during extreme weather events.

Delivering a project of this scale in a city of roughly 40,000 required assembling a layered capital stack: federal grants, state and county funding, local revenues, and a TIFIA Rural Project Initiative loan as the anchor financing tool. Navigating federal credit, investment-grade rating, Buy America compliance, and ongoing reporting obligations added significant administrative complexity. The capital stack is described in full in the Funding and Financing section below. Prior experience managing the federal floodwall project gave Mount Vernon meaningful institutional

capacity for this effort. Strong mayoral leadership and sustained engagement with federal and state partners were essential. The MVLC demonstrates that small and mid-sized cities can leverage federal credit for transit-adjacent civic projects—provided they are prepared for the added complexity and capacity demands.

Initiation and Decision-Making

Champion leadership was the decisive factor that moved the Mount Vernon Library Commons from concept to reality. Innovative funding sources and financing tools, particularly those involving federal credit programs, introduce complexity, regulatory obligations, and political risk. They require more than technical feasibility; they require persistence. In Mount Vernon's case, the mayor, Jill Boudreau, played that role. She committed sustained political energy to the project, engaged directly with federal and state partners, and maintained focus through regulatory hurdles, credit rating requirements, and funding uncertainties.

➔ Takeaway 1: Self-driven projects require strong leadership.

Projects that are driven by community aspirations rather than regulatory requirements often require additional effort to secure funding and financing. Because there is no mandate forcing the project to move forward, sponsors may need a visible champion who is willing to pursue opportunities, coordinate partners, and advocate for the project across multiple funding sources.



The project itself did not emerge spontaneously, it grew out of long-standing needs identified in Mount Vernon's downtown master planning efforts. Following completion of the federal floodwall, the City recognized that preserving downtown was only the first step; it still needed a catalytic civic investment to activate the core, modernize public facilities, and stimulate waterfront redevelopment. The City did not yet know exactly how it would finance such a project. What it did have was clarity about its objectives: a new library, community space, resilience capacity, and a project that would anchor economic activity. Mount Vernon's early clarity about what it wanted to accomplish made it possible to evaluate emerging financing opportunities against a consistent set of goals.

➔ Takeaway 2: Define the project need first.

Mount Vernon identified its goal of creating a civic anchor for downtown before determining how it would be financed. Clearly defining the underlying problem or opportunity helps agencies evaluate funding and financing options and maintain focus when assembling a complex capital stack.

A pivotal moment came when the Mayor attended a Cascadia Innovation Corridor meeting. Exposure to regional infrastructure and economic development discussions reframed the City's ambitions and connected local aspirations to broader state and federal priorities. Equally important, the meeting placed the Mayor in direct conversation with stakeholders who would later play roles in funding and financing the project. What began as a broad civic objective began to take shape as a concrete, actionable initiative.

➔ Takeaway 3: Use conferences to find opportunities

Regional meetings and cross-jurisdictional forums can expose project sponsors to new funding tools, partners, and ideas. These environments often create the conditions for brainstorming and collaboration that help transform early project concepts into feasible initiatives.



The Mayor made multiple trips to Washington, D.C., meeting repeatedly with FHWA officials and the congressional delegation and working closely with state representatives throughout. This persistence was especially important when navigating TIFIA requirements, credit rating processes, and Buy America compliance. Assembling a layered capital stack is an iterative process rather than one-time effort, requiring ongoing advocacy, negotiation, and relationship management.

The project was not undertaken from a standing start. The prior floodwall effort had stretched the City's capacity and familiarized staff with large, federally supported initiatives, reducing institutional hesitation. Capacity is cumulative: large projects build institutional knowledge and credibility that carry into subsequent efforts. Innovative financing can therefore serve not just to deliver a single project, but to strengthen a sponsor's long-term ability to pursue ambitious investments.

Takeaway 4: Major projects build capacity.

Regional meetings and cross-jurisdictional forums can expose project sponsors to new funding tools, partners, and ideas. These environments often create the conditions for brainstorming and collaboration that help transform early project concepts into feasible initiatives.

Funding and Financing Approach

Delivering a \$64 million civic project in a city of roughly 40,000 residents required Mount Vernon to find innovative sources of funding and financing. Early in the process, City leadership recognized that relying solely on incremental grant funding would likely delay the project for years and expose it to escalating construction costs. The central financial question became how to responsibly accelerate delivery while maintaining long-term fiscal stability. The solution was to identify a financing tool that could provide substantial upfront capital at manageable cost, and then layer grants around it to reduce borrowing exposure.

TIFIA's Rural Project Initiative ultimately became the anchor of the capital stack. Mount Vernon's population size and the project's transit-oriented location adjacent to Skagit Station aligned well with the Rural Initiative's eligibility criteria. TIFIA offered several advantages: financing for up to 49 percent of eligible project costs, a long-term repayment period of up to 35 years, and a below-market interest rate tied to U.S. Treasury rates. These features allowed the City to secure approximately

half of the project's capital needs upfront, creating immediate financial clarity and reducing pressure on local borrowing capacity. Compared to issuing traditional local bonds at market rates, TIFIA provided lower annual debt service and greater repayment flexibility. Once TIFIA was identified as viable, it served as the structural backbone of the project's financing strategy.

Equally important was the City's strategy for repayment. To support the TIFIA loan, Mount Vernon dedicated revenues from Washington's LIFT, a state-enabled mechanism that redirects a portion of incremental state sales tax revenue back to the City. LIFT provides \$500,000 annually for 25 years and serves as a predictable base repayment source. The City supplemented this with allocations from REET revenues and, where necessary, General Fund contributions. Conservative financial modeling with no assumed growth in key revenue streams strengthened the City's credit position and supported its ability to secure an investment-grade rating, a prerequisite for TIFIA approval.

With the primary financing tool in place, the City assembled the remaining capital stack by layering federal, state, and regional grant funding around the TIFIA loan. By diversifying its funding sources, the City reduced reliance on any single program and aligned the project with multiple policy priorities, including transit-oriented development, climate action, resilience, and downtown revitalization.

PROJECT TIMELINE

2010S

Federal floodwall project completed, enabling downtown redevelopment.

Late 2010S

City identifies need for a downtown civic anchor. Project concept refined through downtown planning efforts.

2019–2020

Initial funding strategy explored; engagement with state and federal partners begins.

2022

Construction begins.

2024–2026

Facility opens; final completion and closeout activities.

TABLE 5: SOURCES OF FUNDING AND FINANCING (SEE APPENDIX FOR DESCRIPTIONS OF MAJOR FUNDING AND FINANCING SOURCES)

SOURCE	AMOUNT
Federal	
TIFIA Loan	\$26,825,549
USDOT CFI Grant	\$12,500,000
HUD Grants (CDBG / Earmarks)	\$5,000,000
HUD Section 108 Loan	\$1,700,000
ARPA	\$285,974
State	
WA State Capital Grants	\$9,220,000
Environmental Remediation (DOE UST)	\$200,476
Local / Other Sources	
Skagit County Grants	\$1,183,712
LIFT & REET (combined local revenues)	\$5,101,014
Mount Vernon Library Foundation	\$1,531,561
Other Local Funds (utilities, TBD, etc.)	\$1,006,875
Total	\$64,284,161

Several enabling conditions made this layered approach possible. Most critically, there was strong alignment between Mount Vernon and the U.S. DOT's Build America Bureau. The TIFIA Rural Project Initiative was newly emphasized at the time, and federal staff were interested in demonstrating its applicability beyond traditional highway projects. Mount Vernon's transit-adjacent civic investment fit that objective, and both local and federal teams worked collaboratively to structure the project in a way that satisfied program requirements while advancing the initiative's goals. This shared interest in making the Rural Initiative work was essential to securing the loan. In parallel, sustained and direct engagement with the congressional delegation helped secure earmarks and maintain federal momentum. Finally, framing the project as a transit-oriented development, resilience hub, and climate-forward civic investment expanded its eligibility across multiple funding streams. Together, these factors enabled a capital stack in which federal credit and grants played a decisive role in making the project feasible and timely.

Process and Obstacles

Pursuing an innovative federal credit instrument such as TIFIA inevitably introduces a steep learning curve. Unlike traditional grant funding, federal credit programs require sponsors to navigate unfamiliar financial structures, regulatory frameworks, and iterative review processes. In Mount Vernon's case, applying TIFIA to a civic, transit-adjacent project required careful structuring and ongoing coordination with the FHWA and the Build America Bureau. The project did not fit the conventional highway model often associated with TIFIA, and both the City and federal staff were, to some extent, operating in new territory under the Rural Project Initiative. As a result, the process involved clarification, adaptation, and problem-solving in real time.

Takeaway 5: Innovative financing requires flexibility

Programs such as TIFIA may involve unfamiliar structures and evolving interpretations, particularly when applied to new types of projects. Sponsors should expect iteration and ongoing discussions with funding agencies as requirements are clarified.

The strain on administrative capacity was significant. Mount Vernon is a small city with a lean staff, yet it was managing federal credit, multiple grant programs, and a complex construction effort simultaneously. The process created considerable stress, particularly given turnover among project managers and friction between the design and construction teams. A recurring theme was the absence of continuous, experienced “cradle to grave” support—an advisory or management team that could guide the project from structuring and financing through construction and closeout. Without that continuity, local leadership had to become conversant in nearly every technical and financial dimension of the project.

➔ Takeaway 6: Plan for capacity early

Managing federal credit, multiple grants, and a complex construction process can overwhelm small municipal staffs. Agencies should assess their internal capacity early and consider engaging experienced advisory or project management support to guide the project from structuring through completion.

Contract management and incentive alignment also presented challenges. The grand opening occurred when the building was substantially—but not fully—complete. At that stage, the construction firm had received the vast majority of its payments, reducing its financial incentive to quickly resolve outstanding punch-list items. While the decision to open early reflected understandable political and community momentum, it complicated final completion and extended the closeout period. The experience illustrates a practical lesson: payment structures and milestone schedules should preserve sufficient leverage to ensure full delivery before celebratory events. Maintaining contractual discipline, even amid political enthusiasm, can prevent downstream management burdens.

More broadly, the obstacles Mount Vernon encountered were rooted in capacity and novelty. The City was learning a new federal financing process while simultaneously managing design, construction, and community expectations. The challenges were not primarily technical failures, but rather the cumulative weight of navigating complexity with limited institutional bandwidth. What ultimately carried the project forward was sustained leadership, institutional determination, and political willingness to pursue a nontraditional path. A committed champion, a focused core team, and continued engagement with federal partners ensured that the project did not stall despite the strain. For communities contemplating similar approaches, the lesson is that while innovative financing tools can unlock transformative projects, they require institutional stamina, disciplined, and political commitment strong enough to carry the effort through periods of uncertainty and complexity.

Outcomes and Lessons

The Mount Vernon Library Commons was successfully delivered as a multi-use civic facility that brings together a public library, community center, commercial kitchen, structured parking, and extensive electric vehicle charging infrastructure in a single downtown location. Designed as an all-electric, Passive House-certified building, it also serves as a resilience hub capable of supporting the community during extreme weather events or other emergencies. Located adjacent to Skagit Station, the project functions as a civic anchor within Mount Vernon’s downtown, supporting increased activity and reinforcing broader redevelopment efforts along the waterfront. Most importantly, the City was able to assemble and manage a layered capital stack combining federal credit, federal and state grants, regional contributions, and local revenue tools to deliver a project that likely would not have moved forward under a traditional, grant-only funding model.



Several lessons emerge from this experience for agencies considering innovative funding and financing tools:

Innovative financing expands what is possible but requires greater upfront effort.

Financing tools such as TIFIA can unlock projects that would otherwise be delayed or scaled down, but assembling layered capital stacks requires significant coordination, financial modeling, and sustained engagement with funding partners.

Identify a primary financing tool early.

In Mount Vernon's case, once TIFIA was identified as viable, it served as the anchor around which other funding sources were assembled. Establishing a clear financing backbone can help agencies structure the rest of the capital stack more effectively.

Champion leadership is critical for self-driven projects.

Because the Library Commons was not driven by a regulatory requirement, sustained political leadership was essential to secure funding and maintain momentum through a complex process.

Address capacity constraints early by assembling the right team.

Managing federal credit, multiple grants, and a complex construction effort can strain small municipal staffs. Agencies should assess internal capacity early and consider engaging experienced advisory or project management support.

The Mount Vernon Library Commons illustrates both the promise and the demands of innovative funding and financing. By combining federal credit with multiple grant sources and local revenue tools, the City delivered a transformative civic investment on a timeline that would have been difficult under traditional funding sources alone. The experience underscores that innovative financing is not a shortcut but a strategic choice, one that trades increased upfront effort and complexity for expanded feasibility. For communities prepared to align leadership, structure financing deliberately, and manage capacity thoughtfully, Mount Vernon offers a practical example of how layered funding and financing can make ambitious infrastructure projects achievable.



3.6 Oklahoma’s Rural Two-Lane Advancement and Management Plan¹

TOTAL PROJECT COST

\$136 million, structured into smaller project bundles

AGENCY CONTEXT

State transportation agency; statewide jurisdiction; ~4 million residents.

LOCATION

Statewide

TYPE OF IMPROVEMENT

Rural Roads

INNOVATIVE FUNDING OR FINANCING

TIFIA Rural Project Initiative

The Oklahoma Rural Two-Lane Advancement and Management Plan (RAAMP) is a statewide rural highway safety initiative developed by the Oklahoma Department of Transportation (ODOT) to address degrading roadway conditions across Oklahoma’s rural, two-lane highway network. Rather than responding to a single corridor need, RAAMP was conceived as a programmatic investment targeting multiple rural roadways with common safety characteristics.

Approximately 5,300 miles of ODOT’s two-lane highways had deficient or unpaved shoulders, reducing opportunities for drivers to recover from roadway departures or safely pull over during emergencies. These conditions, combined with higher travel speeds, limited emergency response access, and substantial freight traffic on rural roadways, contributed to elevated fatality rates across the rural network. Although rural crashes accounted for approximately one-quarter of all crashes statewide in 2020, they represented roughly 60 percent of all fatal crashes. RAAMP sought to improve safety by adding eight-foot paved shoulders, resurfacing deteriorated pavement, and reconstructing selected roadway segments. The program also supported broader transportation objectives by improving rural connectivity, freight movement, and access to economically important agricultural and recreational areas. The central challenge to the project delivery related to how ODOT could fund a large portfolio of shovel-ready safety projects within a timeframe that maximized public benefit.

¹Data sourced from Build America Center publication: “RAAMP Program in Oklahoma: Value of Innovative Financing”



Initiation and Decision-Making

RAAMP originated from Oklahoma's broader effort to improve the condition and safety of its rural transportation network. Maintaining a state of good repair had become a strategic priority for ODOT. The agency had already completed planning, environmental review, right-of-way acquisition, utility relocation, and design for numerous rural roadway improvements. From an engineering perspective, the projects were fully developed and shovel ready, however, engineering readiness did not guarantee project delivery. The principal constraint was financial. While the projects were ready to be built, ODOT lacked a funding strategy capable of delivering them on a timeframe that matched the urgency of the identified safety needs.

Under a traditional pay-as-you-go approach, ODOT would advance projects incrementally as annual appropriations became available. Agency analysis estimated that completing the planned improvements would require approximately twelve years. This would delay much needed safety benefits while exposing the program to continued construction cost escalation. ODOT needed to find a suitable solution to deliver the roadway improvements without waiting for future appropriations.

Institutional conditions also began to change. In 2021, the Oklahoma Capital Improvement Authority (OCIA) received authority to support transportation improvements through bond issuances and federal loans, providing a mechanism for ODOT to consider financing alongside traditional funding sources. Around the same time, ODOT engaged with the U.S. Department of Transportation's Build America Bureau and learned of the Transportation Infrastructure Finance and Innovation Act Rural Project Initiative (TIFIA RPI). Developed specifically to expand access to federal credit for rural transportation projects, offering more favorable borrowing terms than standard TIFIA assistance. This created an opportunity for ODOT to finance the project upfront and deliver it on an accelerated timeline, rather than phasing implementation based on the availability of annual funding appropriations.

Takeaway 1: Project readiness extends beyond engineering.

Agencies that complete planning, environmental review, and design should evaluate financing strategies early in project development, as funding constraints, rather than technical readiness, may become the primary barrier to timely delivery.

Funding and Financing Approach

The RAAMP financing strategy combined federal credit assistance with existing state and federal transportation funding to accelerate delivery of an already-developed rural safety program. The TIFIA RPI was created to expand access to federal credit for transportation projects serving rural communities, where smaller project sizes and limited local resources can make traditional financing more difficult to obtain. TIFIA RPI allowed up to 49 percent of eligible project costs, eliminated application fees, and offered borrowers an interest rate equal to one-half of the comparable U.S. Treasury rate. Combined with flexible long-term repayment terms, these provisions lowered the financial barriers to accelerating rural infrastructure investments.

For ODOT, the value of TIFIA extended beyond favorable financing terms. By providing substantial upfront capital, the loans allowed the department to deliver the statewide safety program years earlier than would have been possible under annual appropriations alone. Accelerated delivery reduced exposure to construction cost inflation, advanced roadway safety improvements sooner, and preserved ODOT state transportation revenues for additional highway investments elsewhere in the state. To access the enhanced RPI financing terms, the statewide program was structured as a series of coordinated rural project loans rather than a single statewide loan. Each geographically distinct project bundle demonstrated independent utility while sharing common repayment pledges and a coordinated underwriting process. This financing structure satisfied RPI eligibility requirements, increased the amount of project costs eligible for favorable federal credit, and aligned the financing approach with the program's statewide scope.

Takeaway 2

Beyond favorable financing terms, federal credit can advance projects earlier and reduce exposure to inflation while delivering needed public benefits.

Process and Implementation

Although the individual roadway improvements were delivered using a conventional design-bid-build procurement process, the primary implementation challenge involved structuring the financing to satisfy TIFIA RPI eligibility requirements. Early financing concepts considered reducing eligible project costs so the program would qualify under RPI thresholds. Through coordination among ODOT, the FHWA, and the Build America Bureau, the agencies instead identified an alternative approach that preserved the full scope of the

safety program while improving its financeability.

Rather than reducing eligible costs, the agencies restructured RAAMP into multiple geographically distinct project bundles, each demonstrating independent utility. Organizing the program in this manner allowed each bundle to receive a separate TIFIA loan while relying on a common underwriting process and identical repayment pledges. The approach also enabled ODOT to include eligible design, engineering, environmental review, and right-of-way costs within each bundle while remaining below the \$100 million RPI project threshold.

The agencies also evaluated alternative credit structures, including a Master Credit Agreement (MCA). Because the project bundles were expected to reach financial close within a relatively short period and shared identical repayment terms, an MCA offered limited administrative advantages while reducing flexibility if project costs changed. Instead, ODOT and the Build America Bureau executed a series of coordinated TIFIA loan agreements, creating a financing structure that aligned with the phased organization of the statewide program while simplifying administration and preserving implementation flexibility.

➔ **Takeaway 3: Financing eligibility can often be improved through project structuring rather than changes to project scope.**

Coordinating with financing partners early can identify alternative program structures that preserve project benefits while maximizing access to available credit programs.

Outcomes and Lessons

The principal benefit of the financing strategy was accelerated project delivery. ODOT estimated that TIFIA RPI financing would allow the projects to be completed in approximately three years, compared with roughly twelve years under its traditional pay-as-you-go approach. Accelerating project delivery generated measurable economic and public safety benefits. Project analysis estimated that construction costs under the TIFIA-supported scenario would total approximately \$81 million, compared with approximately \$110 million under pay-as-you-go delivery, producing an estimated \$29 million in avoided construction costs resulting primarily from reduced inflation exposure. Earlier completion also allowed motorists to benefit from improved roadway

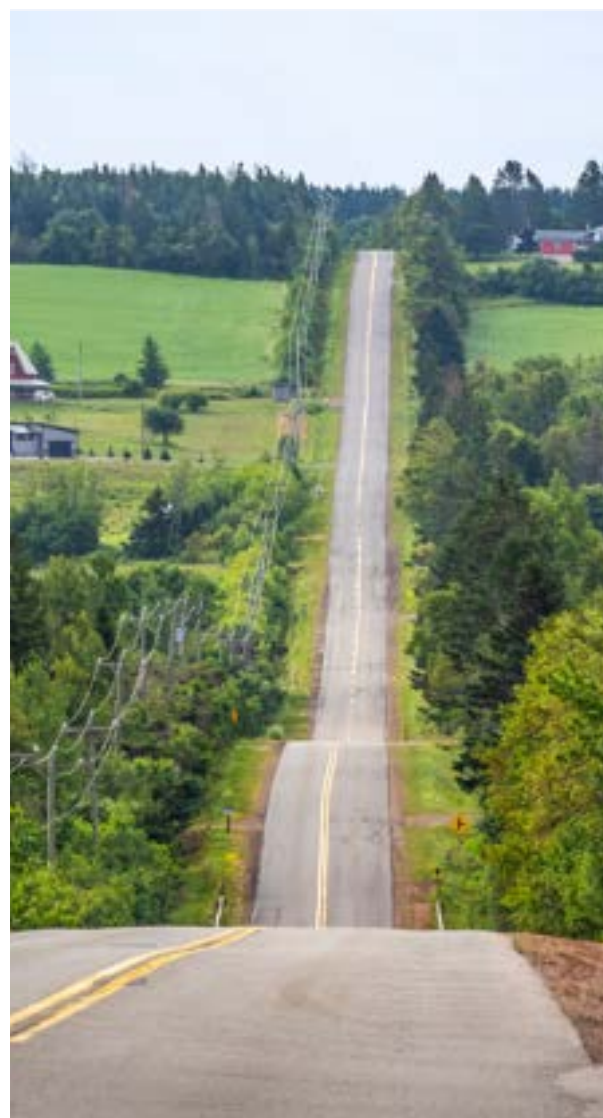
conditions sooner, totaling approximately \$21 million in net safety benefits compared to the non-TIFIA funding alternative by reducing the period during which drivers continued to use deficient rural highways.

The financing strategy also produced broader programmatic benefits to ODOT. Because the TIFIA loan provided nearly half of the upfront project funding, ODOT preserved state transportation funds that otherwise would have been committed to RAAMP. Those funds could instead be redirected toward additional two-lane highway improvements elsewhere, extending the statewide impact of the financing strategy beyond the initial eight project bundles.



Takeaway 4

When projects generate significant public benefits, accelerating delivery can produce value that exceeds financing costs.



3.7 Project Bundling's Relationship to Innovative Finance

What is Bundling

Bundling is a project delivery strategy where multiple small-scale projects are grouped into a single procurement or coordinated program. Rather than advancing each asset through a separate transaction, project sponsors assemble a portfolio of similar projects that can be planned, procured, and delivered systematically. This approach reduces repetitive administrative efforts, streamline procurements, and creates a program of sufficient scale to attract broader contractor interest. Although bridge replacement and roadway rehabilitation are among the most common examples, the same logic can apply to other small, distributed transportation assets that share similar scopes, conditions, or delivery requirements.

Bundling is especially relevant for small-scale transportation projects because many such projects are individually too small to draw strong market attention or justify the transaction costs associated with more complex delivery approaches. A single small bridge, intersection improvement, or facility upgrade may be important from an asset-management perspective, but too modest on its own to generate pricing efficiency or support a more sophisticated procurement structure. By combining multiple projects into a larger and more coherent portfolio, public agencies can improve marketability, increase standardization, and in some cases create a scale at which financing or risk-transfer tools become viable. However, bundling does not by itself make a project financeable; its value depends on the size, similarity, and structure of the bundled program as a whole.

For state DOTs and municipalities, bundling should therefore be understood as more than a procurement tactic. When structured effectively, agencies advance a larger volume of work with comparable administrative capacity, reduce per-unit costs through standardization and economies of scale, and limit duplicative efforts associated with managing numerous standalone procurements. In this sense, bundling can function both as a delivery strategy and, in some contexts, “unlock” innovative financing opportunities by creating a more coherent and investable program of projects.

Takeaway 1: Bundling is a mechanism that unlocks innovative funding and financing at a certain scale.

The innovation is not the individual asset type rather, the grouping of many small infrastructure needs into portfolio of projects of similar size, scope and scale.



Initiation & Decision Making / Bundling Types

Bundling is typically considered when several constraints begin to converge. Often, the issue is not a single major capital project, but an accumulation of small infrastructure needs that are inefficient to deliver through conventional project-by-project processes. These may include deficient bridges, safety improvements, recurring preservation work, or other distributed needs that are individually modest but collectively significant. Common triggers include large backlogs of small capital needs, fragmented ownership across jurisdictions or sponsors, limited staff capacity to manage numerous separate procurements, pressure to accelerate delivery, and funding environments that favor scale, standardization, or demonstrated cost efficiency.

Agencies often begin project selection by focusing on deteriorating asset conditions or unmet capital needs, but bundling tends to emerge when the underlying challenge is recognized as transactional as well as technical. This is when the question shifts from how to deliver each project individually to whether a group of similar projects can be structured as a coordinated portfolio. Reframing as a portfolio of projects changes the procurement evaluation, contractor interest, funding competitiveness, and, in some circumstances, financing feasibility.

Bundling often follows one of two broad pathways, programmatic bundling and opportunity-driven bundling. For some agencies, bundling becomes programmatic, meaning it is incorporated into routine capital programming, asset management, or statewide delivery practice. Under this approach, agencies use established business rules or screening criteria to

identify projects that can be packaged and delivered more efficiently as part of an ongoing program. In others, bundling is more opportunity-driven and episodic. Here, agencies assemble bundles selectively to strengthen a competitive funding application, accelerate delivery, or justify a procurement structure that would not make sense for smaller stand-alone projects.

Bundle Typologies

Programmatic bundling occurs when agencies embed bundling into routine capital planning and delivery processes. In this model, bundling is not tied to a single project, but functions as an ongoing strategy within asset management or capital improvement programs. Agencies systematically group similar assets or recurring needs, such as bridge rehabilitations or safety upgrades, to improve delivery efficiency, standardize procurement, and reduce administrative burden over time.

Opportunity-driven bundling is more episodic and project-specific. In this approach, agencies assemble bundles in response to a particular funding, financing, or delivery opportunity. Bundling may be used to meet minimum project size thresholds, strengthen the competitiveness of a discretionary grant application, accelerate delivery timelines, or justify alternative procurement models such as design-build or P3. Rather than being embedded in routine practice, bundling is deployed selectively to address a defined constraint or opportunity.

Pennsylvania DOT – Rapid Bridge Replacement Program

ACCOMPLISHMENT

Replaces hundreds of structurally deficient bridges statewide through a single, programmatic procurement.

WHERE

Pennsylvania, USA

KEY INNOVATION

Uses a large-scale P3 structure to bundle bridges into one contract, shifting lifecycle risk and enabling accelerated delivery at scale.



The decision to bundle is most effective when it is made early, before projects are fully scoped and committed to separate delivery paths. At that stage, agencies assess whether the candidate projects are similar enough to benefit from standardization, geographically concentrated enough to produce procurement and construction efficiencies, and collectively large enough to change market behavior. A bundle does not need to be especially large to generate administrative efficiencies but generally must reach a greater level of scale to support financing costs, incentivize innovation or allow risk-transfer agreements. Agencies should therefore assess not only whether projects can be grouped, but whether grouping them materially changes their delivery, funding, or financing options.

Bundling represents a shift from project-by-project decision-making to portfolio-based strategy. When that shift occurs early enough, agencies are better positioned to align project selection, procurement structure, staffing capacity, and funding strategy around a coordinated program rather than a series of disconnected small transactions.

Funding and Financing

Bundling can change the funding and financing profile of small transportation projects by increasing scale and coherence. Individually, many small-scale projects lack the contract size, visibility, and continuity needed to justify alternative delivery methods, attract broader market participation, or support the transaction costs associated with more complex financing structures. By aggregating similar projects into a coordinated program, agencies may create a scale at which a wider range of procurement, delivery, and financing options becomes more practical.

Bundling can also strengthen competitiveness for public funding. In discretionary, performance-based, or programmatic funding environments, a well-structured bundle can demonstrate cost efficiency, readiness, and broader program impact more clearly than a set of isolated small-scale projects. Presenting a coordinated portfolio may allow agencies to show that limited public funds will support a larger volume of work, reduce repeated procurement costs, and advance more consistent system outcomes. In this sense, bundling can improve the case for funding even when it does not alter the underlying revenue sources.

At a larger scale, bundling may also support advanced delivery and financing structures, including design-build, lifecycle contracting, or, in some contexts, public-private partnership models. This does not occur because bundling creates new revenue on its own, but because aggregation can produce a contract large enough to justify transaction costs, sustain market interest, and support more deliberate risk allocation. Whether a

bundle can support financing depends on several conditions: sufficient total value, repeatability across assets, a reasonably predictable risk profile, and a clearly identified public funding commitment or repayment source. However, agencies also need the legal and institutional authority to enter longer-term contractual or financial obligations. Without these conditions, bundling may still improve procurement and delivery efficiency, but it is less likely to support more complex financing tools.

Bundling should be understood as a potential enabler of financeability rather than a financing strategy in itself. In many cases, its most immediate value lies in delivery efficiency, standardization, and stronger funding competitiveness. In more structured or larger-scale programs, however, bundling can also help create the conditions under which innovative finance becomes a realistic part of the delivery strategy.

 **Takeaway 2: Bundling can improve a projects financeability by creating the scale and structure that many stand-alone small-scale projects lack.**

The first financing question is usually whether the portfolio is coherent and large enough to justify a more complex structure.

Missouri DOT – Safe & Sound Bridge Improvement Program

ACCOMPLISHMENT

Repairs or replaces a large inventory of deficient bridges across the state under a unified program.

WHERE

Missouri, USA

KEY INNOVATION

Early example of programmatic bundling with design-build delivery, standardizing bridge solutions to achieve speed and cost efficiency across many rural assets.

Delivery and Procurement Structure

Bundling does not make projects more financeable simply by placing multiple assets under a single contract. Its value lies in creating a program of work that is larger, more standardized, and more predictable than a series of stand-alone projects. When bundled assets share similar work types, design requirements, site conditions, and delivery needs, agencies reduce variability and create a clearer basis for pricing, scheduling, and risk allocation. That predictability is important not only for procurement efficiency, but also for determining whether a bundled program can credibly support more advanced delivery or financing tools.

For small-scale transportation projects, this shift can be significant. Individually, many projects are too fragmented to justify complex procurement methods or the transaction costs associated with innovative finance. When bundled to sufficient scale and structured coherently, however, they may begin to function more like a program than a collection of isolated assets. Standardization is central to that transition. It can improve cost predictability, reduce repeated procurement effort, and provide greater confidence to contractors, funders, and, where relevant, financing partners evaluating delivery assumptions and risk exposure.

Procurement model selection should therefore follow both the characteristics of the bundle and the agency's delivery and financing objectives. Smaller bundles may still be best suited to traditional design-bid-build when the primary objective is administrative efficiency or modest cost savings. Medium-sized bundles may justify more coordinated procurement structures when agencies are seeking faster delivery, greater standardization, or stronger program oversight. At larger scales, bundling can create the contract value and program coherence needed to attract more experienced delivery teams, support alternative contracting methods such as design-build or CM/GC, and make lifecycle or risk-transfer approaches more realistic to evaluate. In some cases, that same scale and predictability can help support financing by making the program more legible to potential lenders or private partners.

Scale alone, however, is not enough. If a bundle becomes too large, too geographically dispersed, or too heterogeneous in scope or site conditions, it may reduce competition, complicate contract administration, and undermine the predictability that makes bundled delivery attractive in the first place. This is especially important where financing is being considered, because funders and financing counterparties typically rely on a clear understanding of scope, risk, and delivery sequence. A bundle that is appropriately sized for both the market and the sponsoring agency's management capacity is often more effective than one that is simply

larger.

Procurement structure is closely tied to funding and financing strategy. A well-structured bundle can strengthen grant competitiveness, improve the case for programmatic public investment, and, in some circumstances, create the conditions under which borrowing or alternative delivery becomes viable. Bundling does not by itself solve the revenue question, but it can convert many small, difficult-to-deliver projects into a coherent program that is easier to explain to funders, and in some cases a more credible candidate for innovative finance.



Takeaway 3

Bundling supports innovative finance only when procurement structure, scale, and standardization produce a program that is predictable enough for funders, contractors, and financing partners to price and manage with confidence.

Process and Obstacles

While bundling can improve delivery efficiency and strengthen the case for larger, more coordinated investment, it also changes where complexity occurs in the project lifecycle. Instead of managing many small procurements separately, agencies shift a significant share of complexity upstream into bundle design, procurement strategy, stakeholder coordination, and program oversight. For public sponsors, the core implementation challenge is not simply whether projects can be grouped, but whether the resulting bundle is manageable, and appropriately matched to institutional capacity.

Coordination and governance are often the first major obstacles, particularly when bundled assets are owned by multiple jurisdictions or sponsoring entities. Successful delivery generally depends on a lead entity with sufficient authority to manage stakeholders and establish common expectations around scope, schedule, standards, and risk allocation. Standard agreements, clearly defined decision rights, and a shared framework for delivery are critical because bundling reduces transactional repetition only by replacing it with a higher level of front-end coordination. Without that structure, a bundle may become more difficult to manage than the separate projects it was intended to simplify.

Administrative capacity is a second major constraint. Although bundling can reduce repetitive procurements over time, it concentrates management effort into a smaller number of larger and more complex

transactions. Agencies must be able to manage procurement, stakeholder coordination, environmental and utility issues, contractor oversight, and program sequencing across multiple assets at once. For smaller agencies or multi-jurisdictional partnerships, access to program management capacity, whether internal or external, can be a determining factor in whether bundling is practical. This is especially true when sponsors are also considering alternative delivery or financing tools, which place greater weight on clear roles, strong oversight, and consistent program management.

Bundle sizing and market response also require careful calibration. Larger bundles may improve standardization, and strengthen pricing efficiency, but overly large, dispersed, or heterogeneous packages can reduce competition and complicate delivery. In some cases, they may exclude smaller firms unless subcontracting structures, or other participation strategies are built into the procurement. This balance matters not only for competition, but also for funding and financing considerations, since an oversized or poorly structured bundle may undermine the predictability and market confidence that bundled delivery is intended to create.

Finally, bundling can concentrate risk across the program. A delay affecting one project, such as a permitting issue, utility conflict, right-of-way complication, or scope change, can disrupt sequencing or increase costs across the broader bundle. For that reason, early screening, consistent design standards, clear risk assignment, and active program oversight are essential. In practice, the success of bundling depends as much on governance, management capacity, and risk discipline as it does on the technical logic for grouping projects in the first place.



Takeaway 4: Bundling shifts complexity upstream into planning, procurement, and coordination.

Bundling requires more upfront planning to create a program that is sufficiently standardized and predictable to procure as a single package.

Delaware DOT – Interstate 95 Bridge & Corridor Bundle

ACCOMPLISHMENT

Consolidates 20+ bridge, pavement, and safety projects along a major interstate corridor into a single coordinated project.

WHERE

Wilmington, Delaware, USA

KEY INNOVATION

Corridor-level bundling that integrates bridges with related roadway assets, enabling unified traffic management and avoiding overlapping construction impacts.

Outcomes and Lessons Learned

Bundling functions first as an innovation in delivery scale. By aggregating numerous small, fragmented projects into a more coherent program, agencies can create packages that are easier to procure, more legible to the market, and better able to entice contractor interest. This is particularly important for small transportation projects that are individually difficult to deliver. Bundling can change not only how projects are contracted, but also how they are perceived by funders, delivery partners, and, in some cases, financing counterparties.

The effectiveness of bundling, however, depends heavily on how the program is structured. Strong bundles are usually defined by similarity in project type, reasonably consistent scope and design requirements, and a clear geographic or operational logic. These characteristics support standardization, which in turn can improve cost predictability, simplify procurement, and reduce delivery risk. Cost savings and schedule improvements are attributable to the operational efficiencies it makes possible, such as repeatable designs, coordinated construction sequencing, and reduced administrative duplication.

Bundling can improve financeability, but only under more limited conditions. Aggregation does not create revenue on its own, and it does not automatically justify financing. Rather, bundling creates a program of sufficient scale, predictability, and coherence to make more advanced delivery or financing structures worth evaluating. For that to occur, the bundled program needs a clear scope, a predictable risk profile, and an identified public funding commitment or repayment source capable of supporting transaction costs and longer-term debt obligations. Without those conditions, bundling is more likely to remain a delivery-efficiency tool than a true financing strategy.

Institutional capacity is an equally important enabling factor. Bundled programs often involve multiple project sponsors, local jurisdictions, or asset owners, which increases the need for a lead entity capable of assembling the bundle, coordinating stakeholders, structuring procurement, and managing implementation. This coordination role can be as important as the technical characteristics of the underlying projects themselves. Where innovative finance or alternative delivery is being considered, governance and management capacity become even more consequential because they shape whether the program is viable to funders and private partners.

Bundling should be evaluated across two distinct but related dimensions: as a delivery strategy and as a support to funding and innovative finance. Its primary value lies in improving efficiency, standardization, and reaching program scale, however, that same scale helps

create the conditions under which financing or more complex procurement structures become viable options. Clarifying that objective early helps agencies align bundle design, procurement strategy, and expected outcomes with the role bundling is intended to play.

Transferable Takeaways for State DOTs and Municipalities

- Bundling is an innovation in scale that can turn many small, individually hard-to-deliver projects into a more coherent program with stronger market appeal.
- Bundling can improve financeability, but only where scale, structure, and public capacity are sufficient to justify a more complex approach.
- The strongest bundles are usually defined by similarity of project type, reasonable geographic logic, and a clear public objective.
- Savings and faster delivery generally result from repeatability, standardization, and reduced duplication rather than from bundling alone.
- State DOT leadership is often important where local assets are fragmented across many owners and no single municipality has the capacity to coordinate a larger program.
- Bundling should be assessed as both a delivery strategy and a funding-and-finance support strategy, with the relative importance of each made explicit early in project development.



4.

Cross-Cutting *Insights*

The recurring themes identified in this chapter should not be interpreted as a prescriptive decision framework. The case studies demonstrate that innovative funding and financing strategies are highly dependent on project objectives, agency capacity, legal authority, available revenue sources, and local circumstances. Rather than prescribing a single approach, the cross-cutting insights highlight patterns observed across multiple projects and identify considerations that agencies may find useful when evaluating similar opportunities.

This section is organized into three subsections. **Actionable Insights** synthesizes the most consistent lessons from the case studies into guidance that project sponsors, including local agencies, transit authorities, and MPOs, can apply when developing and delivering

small-scale transportation projects. Where a takeaway reflects what one city learned, an actionable insight reflects what the body of cases suggests more generally. **Observed Patterns** documents recurring features of how small-scale projects are structured and delivered that are worth understanding, but that sponsors are unlikely to change through their own decisions. These describe the landscape rather than prescribe a course of action. **Policy Considerations** identifies areas where the constraints facing small-scale project sponsors are structural, and where changes at the regional, state, or federal level could meaningfully expand delivery options. These are things individual sponsors cannot address on their own, but that policymakers and program administrators may be positioned to act on.

4.1 Actionable Insights

Align project timing with technical need, funding availability, and stakeholder dynamics

Project timing is rarely driven by engineering need alone. In practice, delivery happens when technical readiness, funding availability, financing options, and stakeholder alignment come together. Misalignment across these factors is a common source of delay, such that projects may be technically ready but lack funding, or are fully funded but stalled by stakeholder opposition. Sponsors that actively manage timing can avoid these gaps by aligning capital planning with funding cycles and setting clear boundaries around stakeholder engagement. Treating timing as a strategic decision, rather than a fixed outcome, improves both delivery certainty and project quality.

Relevant cases: Escanaba, Rockside, NVTa, Jackson

Use financing strategically to shape delivery and manage uncertainty

Financing is most effective when it is used proactively, not just to fill a gap. It allows sponsors to advance projects before all funding is secured, align costs with long-term revenues, and maintain momentum when key funding sources are delayed or uncertain. This is particularly important for small-scale projects, where funding is often fragmented and timing mismatches are common. However, financing introduces complexity and requires a reliable repayment source, so it must be structured carefully. When used deliberately, financing becomes a tool for controlling delivery risk and timing, not just a way to access additional capital.

Relevant cases: NVTa, Mount Vernon, Rockside

Identify and protect recurring revenues early

Most financing tools depend on stable repayment sources. Small-scale projects rarely generate dedicated revenues, so repayment typically relies on existing sources such as taxes, fees, or general fund contributions. If these revenues are not identified early, financing options become limited or infeasible. Protecting these revenues is equally important, as overcommitting them can constrain future projects. Establishing a clear, reliable repayment base early in the process expands the range of viable delivery strategies and reduces financial risk.

Relevant cases: NVTa, Escanaba, Mount Vernon

Build capacity deliberately to manage complexity

Innovative funding and financing increase the demands placed on project sponsors. Federal credit programs, layered capital stacks, and multi-agency coordination introduce requirements that go beyond typical project delivery. Small agencies, in particular, may not have the

staff or experience to manage these processes internally. Without sufficient capacity, projects can stall or incur unnecessary risk. Sponsors should assess these demands early and supplement internal teams with advisors or external support where needed. Building capacity is not optional: it is a prerequisite for successfully using more complex delivery approaches. Fortunately, the capacity and learning gained from one project is not lost once the project is delivered and can be applied to subsequent projects.

Relevant cases: NVTa, Escanaba, Mount Vernon

Use external networks and advisors to expand available options

Many funding and financing solutions are not identified internally but through external relationships. Advisors, state agencies, and peer networks often bring knowledge of tools that are not widely used or understood by smaller sponsors. Without this input, agencies tend to default to familiar approaches, even when better options exist. Engaging external expertise broadens the range of feasible strategies and reduces the risk of overlooking viable solutions. This is particularly important for non-routine projects, where standard approaches may not be sufficient.

Relevant cases: Escanaba, NVTa, Mount Vernon

Leverage scale to improve delivery and access to tools

Small-scale projects often face structural limitations due to their size. Individually, they may not attract contractor interest, justify complex procurement methods, or support financing. Creating scale through bundling or coordinated programs can change this dynamic by improving efficiency, increasing market interest, and, in some cases, making financing more viable. The benefit is not just larger contracts, but more predictable and standardized delivery. Sponsors should evaluate whether grouping projects creates meaningful advantages, rather than treating each project in isolation.

Relevant cases: Rockside, Project Bundling section

Coordinate across sectors to deliver more complete outcomes

Infrastructure systems are often interdependent, but projects are frequently delivered in isolation. When work overlaps, separate delivery leads to repeated disruption and higher costs. Coordinating across sectors allows agencies to take advantage of a single construction window to address multiple needs. This requires more upfront planning and alignment across departments, but it produces more durable and cost-effective outcomes. The main constraint is coordination, not feasibility.

Relevant cases: Escanaba, Mount Vernon

Actively manage delivery risks, especially delays and stakeholder impacts

Delays are a defining feature of small-scale project delivery and are often driven by stakeholder issues, permitting, procurement, or coordination challenges. These risks are predictable and recurring. Without clear decision points and defined processes, projects can become stuck in extended redesign or negotiation phases. Sponsors should anticipate these risks early and establish boundaries for stakeholder input, prepare contingency plans for delays, and identify alternative sources to keep projects moving. Managing these risks proactively is essential to maintaining cost control and delivery timelines.

Relevant cases: Jackson, NVTA, Escanaba, Rockside

4.2 Observed Patterns

Projects originate in different ways, and that shapes how they are delivered

Across the cases, projects consistently fall into three distinct origin types. This explains differences in how projects move forward, how flexible they are, and where risks emerge.

- **Compliance-driven projects** are initiated to meet regulatory, environmental, or safety requirements. They move with urgency and clarity but tend to focus on minimum necessary scope and have limited flexibility.
- **Process-driven projects** emerge from formal planning and capital programs. They benefit from structure and continuity but can become routine, making them less likely to explore alternative approaches or adapt quickly.
- **Self-driven projects** are advanced through local leadership or vision. They tend to be more flexible and open to creative approaches but depend heavily on sustained advocacy and can lose momentum without it.

Recognizing how a project originates helps explain its trajectory. It also highlights where additional management is needed, such as maintaining momentum in self-driven projects or introducing flexibility into process-driven ones.

Small-scale projects sit in an “in-between” space that shapes how they are funded and delivered

Small-scale transportation projects do not fit neatly into existing funding structures. They are too large to be delivered through routine local budgets, but too small to attract the dedicated funding, financing tools, or attention associated with major projects. This creates an “in-between” space where projects are often viable

but difficult to deliver. As a result, sponsors rely on assembling fragmented funding sources, adapting tools not designed for this scale, or sequencing delivery over time. This structural position is what creates many of the challenges observed across the cases.

Stakeholder dynamics often become the primary driver of timelines

As projects move from planning into design and implementation, stakeholder influence tends to increase. Early planning-level support does not always translate into project-level agreement once impacts become more visible. This can lead to iterative design changes, extended engagement, and delays. In some cases, this improves outcomes; in others, it significantly extends timelines and increases costs. The consistent pattern is that stakeholder dynamics, rather than funding or technical readiness, often determine how quickly a project progresses.

Relationships and coordination capacity are critical throughout the project lifecycle

Strong relationships across agencies, partners, and stakeholders are consistently important through project initiation, delivery and beyond. This includes coordination with state and federal partners, peer agencies, consultants, and internal teams. While this may seem obvious, it has practical implications: well-established relationships make it easier to resolve issues, share information, and identify opportunities as they arise. They also increase the likelihood that partners will proactively engage with each other, rather than working in isolation. This is not limited to funding or financing but affects project development, delivery, and long-term operations.

Project delivery can have unintended regional effects

Even relatively small-scale projects can have outsized impacts within their regional context. In smaller or rural markets, a single large project can absorb a significant share of available contractor capacity, limiting the ability of nearby jurisdictions to advance their own projects at the same time. These effects are not typically considered at the project level, but they can influence delivery timelines and costs across a region. This suggests a role for state or regional entities to better coordinate project pipelines and manage these knock-on effects.

4.3 Policy Considerations

Improve awareness and accessibility of funding and financing tools

Many small-scale project sponsors are not fully aware of the range of funding and financing tools available to them, or they encounter them only by chance. This leads to inconsistent use of programs like TIFIA or State Infrastructure Banks, even when projects could qualify. The issue is not only eligibility, but visibility and understanding. Higher-level agencies could improve outcomes by more actively sharing information, providing clear examples, and making tools easier to navigate. Better awareness would reduce reliance on informal discovery and allow more sponsors to evaluate these options earlier in project development.

Provide targeted technical and administrative support to smaller sponsors

The main barrier for small-scale projects is often not access to capital, but the capacity required to use it. Requirements tied to federal and state programs such as NEPA reviews, Buy America, Davis-Bacon, and creditworthiness standards introduce administrative complexity that smaller agencies struggle to manage. These requirements are generally fixed, but the ability to navigate them is not evenly distributed. Providing targeted support through technical assistance, advisory services, or dedicated program staff can help smaller sponsors access tools that would otherwise be out of reach. This shifts the constraint from administrative feasibility back to project feasibility.

Strengthen regional coordination to manage system-level effects

Individual projects are typically planned at the local level, but their effects are often regional. In smaller markets, a single project can absorb contractor capacity, affect labor availability, or influence the timing and cost of other projects. These knock-on effects are rarely considered by individual sponsors but can shape delivery outcomes across a region. Higher-level agencies such as states or MPOs are better positioned to see and manage these interactions. Strengthening coordination and maintaining visibility over project pipelines can help balance workloads, reduce unintended conflicts, and improve overall system performance.



Appendix A - Funding and Financing Sources

This appendix provides brief descriptions of the major funding sources and financing tools referenced throughout this guide. Each entry notes the case studies in which that source appears, so readers can refer back to the relevant project for a practical example of how the mechanism was applied.

FEDERAL FINANCING

TIFIA

Transportation Infrastructure Finance and Innovation Act

Case studies:

- Mount Vernon
- NVTa
- Oklahoma RAAMP

TIFIA is a federal credit program administered by the U.S. Department of Transportation's Build America Bureau that provides long-term, low-interest loans and loan guarantees for eligible surface transportation projects. Loans can cover up to 49% of eligible project costs, with interest rates tied to U.S. Treasury rates and repayment terms of up to 35 years—terms that are typically more favorable than conventional municipal borrowing. The Rural Project Initiative extends TIFIA access to smaller communities and lower-cost projects, making the program relevant to a wider range of sponsors than the standard program threshold would otherwise allow.

FEDERAL GRANTS

Federal Formula Grants

Case studies:

- NVTa
- Rockside Bridge

Federal formula grants are funding allocations distributed to states, metropolitan planning organizations, and eligible agencies based on statutory formulas tied to factors such as population, transit ridership, and road mileage. Unlike competitive programs, formula funds are predictable, recurring, and do not require individual project applications, making them a reliable baseline resource for transportation capital programs. Common programs include FTA Section 5307 (Urbanized Area Formula), Section 5339 (Bus and Bus Facilities), and the FHWA Surface Transportation Block Grant (STBG).

Federal Discretionary Grants

Case studies:

- Mount Vernon

Federal discretionary grants are awarded through competitive application processes and evaluated against criteria that typically include project merit, cost-effectiveness, and alignment with current policy priorities such as safety, equity, or climate resilience. Award amounts can be substantial and are non-repayable, though they come with federal compliance requirements including environmental review, Buy America, and Davis-Bacon wage standards. Examples include the USDOT RAISE program, the Charging and Fueling Infrastructure (CFI) grant, and various FTA competitive programs administered under BUILD and INFRA frameworks.

Federal Earmarks

Congressionally Directed Spending

Case studies:

- Mount Vernon

Federal earmarks are direct project-level appropriations for specific projects secured through a sponsor's Congressional representatives and included in annual federal appropriations legislation. Unlike competitive grants, earmarks are not subject to a merit-based selection process, but obtaining them requires sustained advocacy, active Congressional relationships, and alignment with legislators' priorities. Once awarded, earmark funds are non-repayable and function as grants, though they are subject to the same federal compliance requirements—Buy America, Davis-Bacon, environmental review—as other federally funded projects.

HUD Programs

CDBG and Section 108

Case studies:

- Mount Vernon

The Community Development Block Grant (CDBG) program provides flexible federal grants to eligible communities for a broad range of capital and community development activities, with the requirement that funds primarily benefit low- and moderate-income residents. Section 108 is a federally guaranteed loan program that allows CDBG entitlement communities to borrow against future CDBG allocations at favorable rates for qualifying economic development, public facility, and infrastructure investments. Both programs can complement transportation funding strategies in communities that qualify, particularly for projects with civic, neighborhood revitalization, or economic development dimensions.

ARPA*American Rescue Plan Act*

Case studies:

- Mount Vernon
- Escanaba

The American Rescue Plan Act of 2021 distributed approximately \$1.9 trillion in federal recovery funding across a wide range of programs. For infrastructure, the most relevant provisions were the State and Local Fiscal Recovery Funds (SLFRF), which gave governments flexible capital for eligible investments, and additional capitalizations of the Drinking Water and Clean Water State Revolving Funds that expanded grant availability for utility projects. ARPA funds were time-limited and are largely expended; they are referenced here as a historical funding source for projects developed between 2021 and 2026, and as an example of how one-time federal recovery programs can be layered into a capital stack.

STATE FINANCING**State Infrastructure Bank***SIB*

Case studies:

- Escanaba
- Rockside Bridge

State Infrastructure Banks are state-administered revolving loan funds that provide low-cost financing for eligible transportation projects, typically at interest rates below what a sponsor could obtain through conventional borrowing. Capitalized with a combination of federal and state funds, SIBs reinvest loan repayments into new loans over time, allowing a single pool of capital to support multiple projects across a state. SIB loans tend to be faster and less administratively complex than federal credit programs like TIFIA, making them well suited for smaller financing needs where the transaction costs of a larger federal program would be disproportionate to the project scale.

STATE GRANTS & PROGRAMS**State Revolving Funds***DWSRF and CWSRF*

Case studies:

- Escanaba

The Drinking Water State Revolving Fund (DWSRF) and Clean Water State Revolving Fund (CWSRF) are federal-state partnership programs providing low-cost financing—and in some cases outright grants—for eligible water and wastewater infrastructure improvements. Administered by states with EPA oversight, these programs are a primary funding mechanism for projects involving lead service line replacement, sewer rehabilitation, stormwater upgrades, and drinking water system improvements. SRF funds are generally limited to utility-related work and do not cover full surface restoration, which can create a residual funding gap for projects that combine utility improvements with broader street reconstruction.

State Transit Funding Programs

Case studies:

- NVT

Most states provide dedicated funding to support transit capital needs through programs funded by sales taxes, fuel taxes, or general state revenues, typically distributed to agencies through formulas based on population or ridership. These programs provide a predictable annual revenue stream for capital investments and, in some cases, are stable enough to serve as a repayment source for financing instruments. Examples include California's Transportation Development Act (TDA), which allocates a portion of local sales tax revenues to regional transit authorities, as well as State Transit Assistance (STA) and State of Good Repair (SGR) programs found in many other states.

LOCAL & VALUE-BASED REVENUE**Value Capture Tools**

Case studies:

- Jackson School Road
- Mount Vernon

Value capture tools are funding sources that generate locally controlled revenue by recovering a portion of the increased land value, economic activity, or system use associated with infrastructure investment. Common instruments include transportation utility fees (recurring charges based on estimated road use), transportation development taxes and traffic impact fees (one-time charges on new development), tax increment financing (TIF), and state-enabled funding sources such as Washington's Local Infrastructure Financing Tool (LIFT), sales tax funding dedicated to a district. These tools provide dedicated, predictable revenue streams that can fund project delivery directly or serve as repayment sources for financing instruments, but they typically require enabling legislation, administrative systems, and sustained public or political support to establish.

Appendix B - Image Credits

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