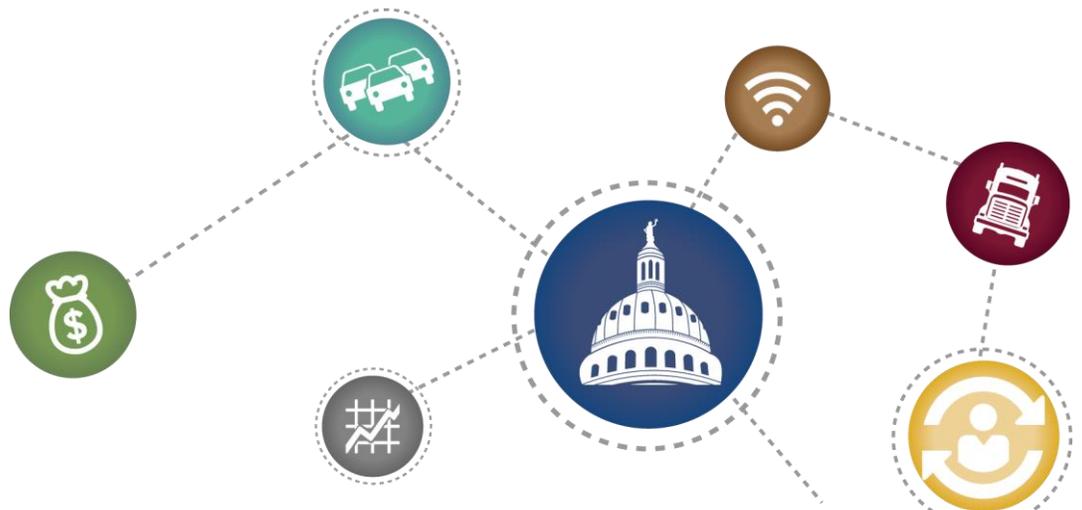


A Review of Alternative Financing Methods for Roadway Projects in Small Urban and Rural Areas of Texas

Final Report

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A Review of Alternative Financing Methods for Roadway Projects in Small Urban and Rural Areas of Texas

Texas A&M Transportation Institute

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Executive Summary

In 2014, the Texas A&M Transportation Institute (TTI) published a report titled *Public-Private Investment Models for Roadway Infrastructure*. This report provided a balanced, objective assessment of the benefits and limitations of transportation public-private partnership projects in North America and evaluated them for application in a Texas context. Researchers found that the vast majority of transportation projects financed and delivered via alternative project methods were facilities located in the state's largest urban areas. While this may be an unsurprising finding, one question that emerged was whether alternative financing methods and approaches could be appropriate in small urban and rural areas of Texas as well.

Literature Review

To this end, TTI conducted an analysis seeking to summarize funding and financing methods used in small urban and rural areas outside the four major metropolitan regions of Houston, Dallas-Fort Worth, Austin, and San Antonio. Based on a review of scholarly literature and government reports, researchers found instances of successful alternatively financed projects in these small urban and rural areas, especially when that locality was able to leverage multiple revenue streams from local sources. Often, local governments that were able to bring several local agency coalitions together were also more successful at bringing federal and state transportation dollars to their regions to fund and deliver critical transportation projects.

Revenue Stream Sources and Financing Methods

This current report summarizes a number of revenue stream options (i.e., options that provide new revenue for transportation) and financing tools (i.e., methods used to secure funding for the construction of a transportation project) currently available under Texas law. Specifically, the Texas Legislature has granted local governments several tools to fund and finance transportation projects:

- Vehicle registration fees.
- Local sales and use tax.
- Impact fees.
- Tolling.
- Property tax/tax increment financing.
- Pass-through financing.
- Comprehensive development agreements.
- Local debt financing.

- Credit assistance programs.
- Cash management tools.

Stakeholders

In Texas, a large number of regional and local actors are involved in planning, financing, and procuring transportation projects. In many instances, the Texas Department of Transportation (TxDOT), municipalities, counties, metropolitan planning organizations, special-purpose districts, transportation reinvestment zones, toll authorities, regional mobility authorities, economic development corporations, and other entities must work together to leverage federal, state, local, and private dollars. Due in part to increasingly limited transportation resources, a new era is emerging that requires coalitions of governments at all levels to come together and fund transportation projects. Evidence from around the United States also supports this trend. While some scholars have criticized this approach because it can sometimes distort the transportation planning process, others suggest this trend ensures that limited transportation dollars are allocated only to the most high-priority and high-need projects.

Case Studies

Researchers selected four transportation projects for further study:

- John Ben Shepperd Parkway in Odessa.
- U.S. Highway (US) 190 Bypass in Copperas Cove.
- State Highway Spur No. 601 in El Paso.
- Loop 49 in Tyler.

Researchers selected these case studies because they represent a diverse set of projects outside the four largest Texas metropolitan areas and were delivered through the use of creative funding match agreements and financing tools.

John Ben Shepperd Parkway in Odessa

According to data the Odessa Chamber of Commerce provided to TTI, an initial \$5 million investment by local partners for the John Ben Shepperd Parkway improvements, together with approximately \$20 million in TxDOT assistance, led at least indirectly to a total of nearly \$500 million in capital investment along the corridor.

US 190 Bypass in Copperas Cove

In Central Texas, the City of Copperas Cove, the Copperas Cove Economic Development Corporation, and Fort Hood sought for nearly two decades a bypass around the southeast portion of a busy US 190 corridor through the center of a growing Copperas Cove area. Through the development of an advance funding agreement—a mechanism developed in part to help assist

local communities in funding high-priority projects—funding was secured, and construction began in 2011.

Since its opening in 2015, the US 190 bypass has attracted private-sector investment and improves the connection for Lampasas County residents to major job centers in Fort Hood, Killeen, and Temple. The US 190 bypass, according to informal discussions with regional transportation professionals, has already improved congestion on the Business 190 route through Copperas Cove.

State Highway Spur No. 601 in El Paso

Financing for State Highway Spur No. 601 in El Paso was arranged through the local regional mobility authority (RMA) and was the first of its kind in Texas. Project financing was arranged through the local RMA, Camino Real Regional Mobility Authority, as part of a pass-through agreement arrangement with TxDOT and a private partner. An independent analysis of this financing arrangement found it accelerated the project start by at least a decade.

Loop 49 in Tyler

The Tyler Loop 49 project is noteworthy in part because it is one of the state's largest tolled projects located outside one of the four major Texas Triangle metropolitan areas (Houston, Dallas-Fort Worth, Austin, and San Antonio). This project was effective in part because the North East Texas Regional Mobile Authority was able to use several financing methods and funds from the Federal Highway Administration, TxDOT, the City of Tyler, and Smith County.

Findings

Several findings emerged from this study:

- Researchers found a general trend away from federal and state governments funding nearly all of a transportation project. This appears to be a statewide trend that is not unique to rural areas. For the most part, projects that are funded nearly exclusively by federal and state sources are declining, while projects funded by federal, state, local, and private sources are increasing.
- Researchers found a trend toward approving legislation that gives local governments the authority to consider additional sources for transportation revenue to fund projects in their regions. Lawmakers have approved legislation allowing municipalities, counties, special-purpose districts, and other local entities the flexibility and control to levy funds to pay for their transportation projects. Most notably, the creation of RMAs via Senate Bill 342 in 2001 has given small urban and rural communities greater flexibility to use tolling and other alternative project financing tools to fund and deliver transportation projects in their regions.
- During the past two legislative sessions, lawmakers passed (and voters approved) changes to the state constitution providing new state revenue for transportation. No taxes

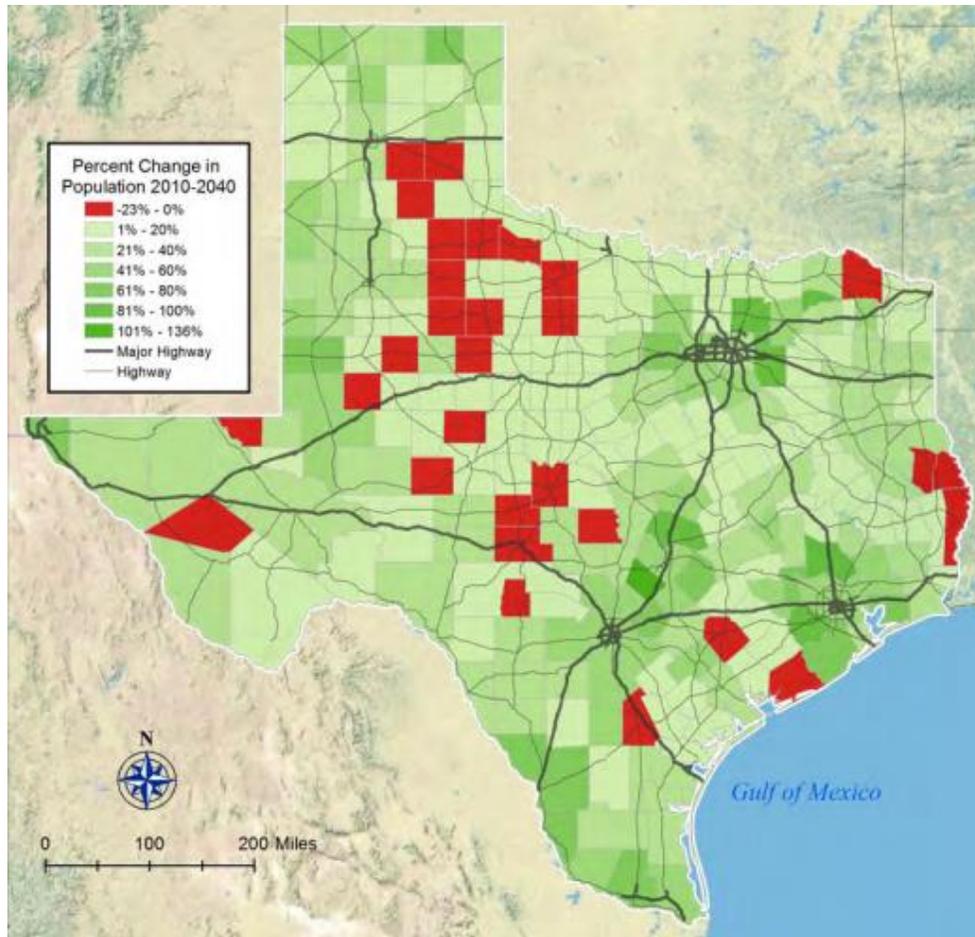
or fees were increased as part of these changes; rather, revenues collected by the state that previously went toward other purposes were instead allocated to the State Highway Fund. In 2014, voters approved a constitutional amendment that transfers a portion of revenue collected from oil and gas taxes previously deposited into the state's economic stabilization fund to be directed instead to the State Highway Fund. In 2015, voters again approved a constitutional amendment that dedicated a portion of revenue collected from the state's general sales and use tax as well as a portion of the state's motor vehicle sales and rental tax to the State Highway Fund.

Introduction

Population Growth

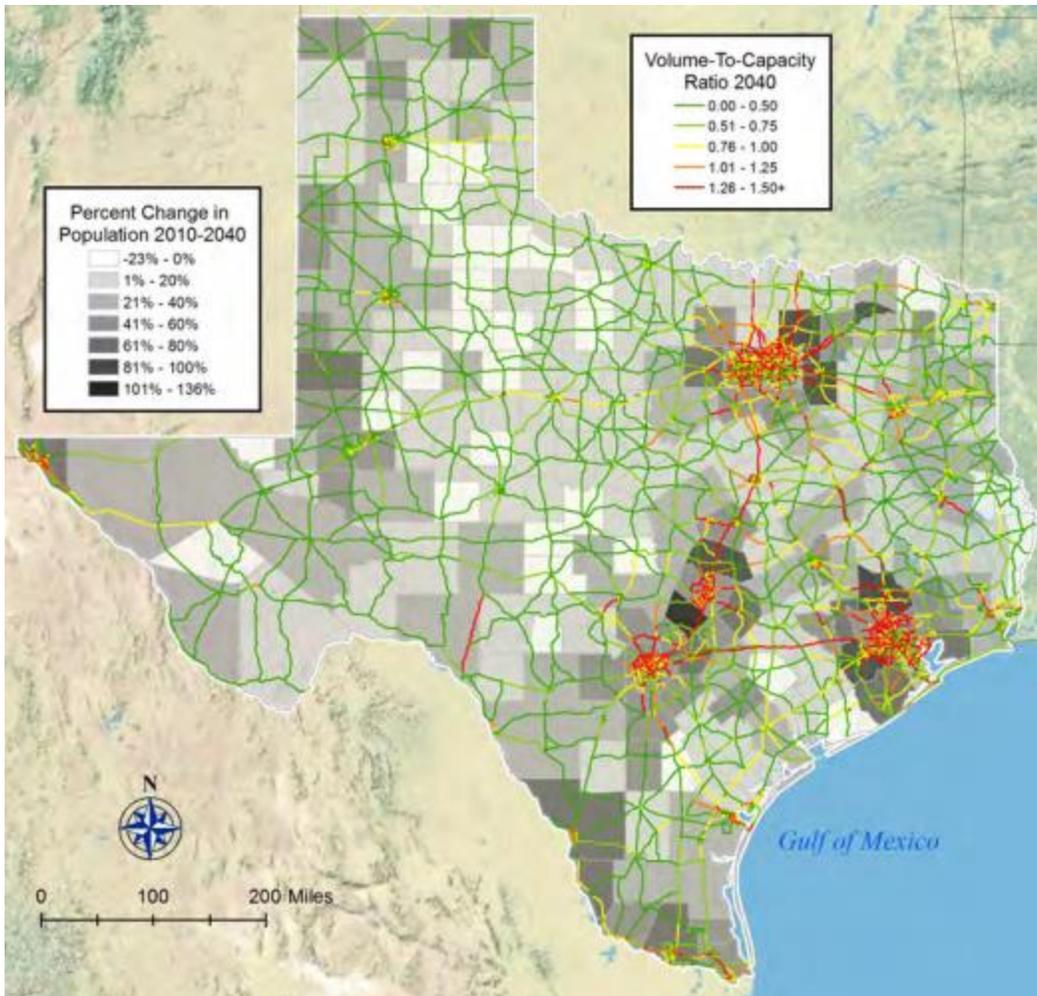
For the past several decades, Texas has experienced significant population growth. While most of this growth has occurred in the Texas Triangle (the Houston, Dallas-Fort Worth, Austin, and San Antonio metropolitan area), recent state demographer projections suggest Texas will double in population over the next 30 years, growing from approximately 26 million today to over 54 million by 2050 (1). The Texas State Demographer projects the state will likely see rates of growth that exceed that of many other U.S. states, assuming economic and net migration trends continue.

Figure 1 illustrates the percent changes in population by county from 2010 to 2040 based on the Texas State Data Center's mid-range (0.5) net migration population projections. Figure 2 provides additional context concerning projections in population change and those impacts on the state's existing highway infrastructure by 2040 (2). Orange and red lines indicate highway facilities the U.S. Department of Transportation predicts will experience higher volume-to-capacity ratios. (Highway engineers generally define this ratio as the number of vehicles at a specific period of time divided by the capacity of the roadway facility.)



Source: (2).

Figure 1. Projected Percent Population Change, by County, from 2010 to 2040.



Source: (2).

Figure 2. Projected Percent Population Change and Level of Service by 2040.

Revenue Stream Challenges

Despite this strong growth, however, Texas continues to face long-term *revenue stream* challenges. Over the past 20 years, the Texas Legislature has passed legislation creating or authorizing several new financing methods (i.e., methods that leverage revenue stream sources) that have provided greater flexibility to obtain the upfront funding needed to deliver transportation projects. However, in nearly all cases, these programs only secure funding from existing traditional transportation revenue stream sources.

In 2015, Texas lawmakers passed (and voters subsequently approved) an amendment to the state constitution that dedicates a portion of the state's general sales and use tax, which could provide as much as \$2.5 billion in net *new* revenue for transportation (3). However, other studies have suggested that more net new revenue for transportation may be needed to meet the state's growing mobility needs (4, 5, 6).

Revenue Stream Sources and Financing Methods

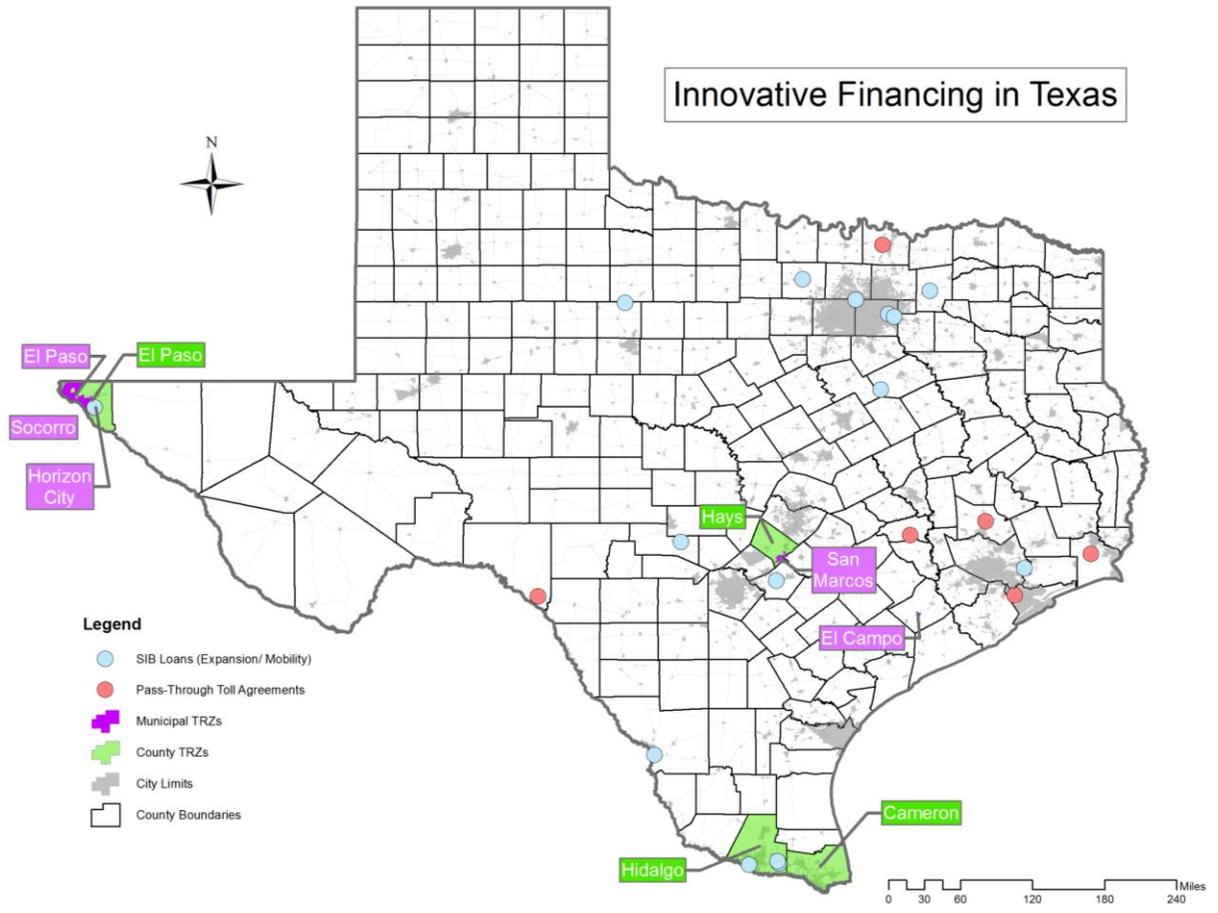
In light of these challenges, this report examines revenue stream sources and financing methods that may be available for transportation projects outside the Texas Triangle region of the state. This report explores the following revenue stream sources and financing methods:

- Value capture.
- Loan programs.
- Impact fees on developers.

Revenue stream methods aim to reduce the overall project delivery time and create opportunities to increase the number of projects that can be constructed.

Case Studies

As part of this study, four case studies feature the development of mobility projects in growing areas of the state outside the Texas Triangle region. Many areas outside the fast-growing Texas Triangle region have also experienced significant population and job growth, as shown in Figure 3.



Source: (7).

Figure 3. Map of Alternative Financing Methods Used in Texas.

Literature Review

The literature discussing local and rural transportation financing has evolved over the past two decades. While the literature’s focus has been more on taxes and fees, there has been an increase in research on value capture techniques and public-private partnerships (P3s) because they have been used to a greater extent over the past decade. Much of the literature reviewed for this report is focused on Texas.

Researchers gathered several major themes and takeaways from the literature. Table 1 summarizes some of these key findings.

Table 1. Summary of Key Literature.

Study	Summary of Relevant Findings
Stommes and Brown 2002 (8)	Finds that the Intermodal Surface Transportation Efficiency Act (ISTEA) and Transportation Equity Act for the 21st Century (TEA-21) have allowed local (and subsequently rural) entities to have more power in the decision-making process.
Goldman and Wachs 2003 (9)	Finds that local taxes and fees would shift power “away from planning bureaucracies and toward mechanisms of direct democracy—and away from metropolitan-level agencies and toward elected level governments.”
Kidder 2006 (10)	Identifies three major characteristics that rural areas have in common that must be taken into account when making transportation planning and financing decisions: <ul style="list-style-type: none"> • A small population base. • Distance and terrain. • Different economic structures than urban areas. Noting this, five key questions are identified that rural stakeholders must answer: <ul style="list-style-type: none"> • How can transportation be used to influence rural economies? • What is the appropriate balance between providing for effective rural transportation and preserving natural resources? • How can rural transportation be made more widely accessible? • How should decisions on rural transportation be made? • How should rural transportation best be funded?
Ewoh 2007 (11)	Provides evidence that local involvement is critical in making sound transportation planning and financing decisions.
Persad et al. 2008 (12)	Points out that detailed analyses are necessary in determining which type of financing method is to be used to pay for a rural transportation project.
Miller and Sassin 2014 (13)	Asserts that various actors that have a stake in transportation decisions must collaborate and coordinate for there to be success in addressing associated issues.
Hamideh et al. 2008 (14)	Concludes that “it can be argued that local government transportation sales taxes have a reasonable chance of acceptance if they are properly packaged and marketed.”

Study	Summary of Relevant Findings
Bochner et al. 2002 (15)	By examining the potential of smart growth in other states, this report finds that partnerships between public and private entities, as well as between state and local governments, bring numerous benefits to delivering an efficient and effective and environmentally sustainable transportation system to the public.
Zietsman et al. 2007 (16)	Provides a summary and examples of transportation project partnerships in Texas. This report also identifies economic and other benefits related to innovative funding methods used at the local level.
Vadali et al. 2010 (17)	Discusses the use of transportation reinvestment zones (TRZs) in Texas and notes that there is “a general lack of awareness” when it comes to TRZs.
Overman et al. 2016 (18)	Summarizes trends, governing legislation, and reporting requirements for RMAs in Texas. Specifically, this research found that RMAs can vary significantly across the state and have been used to finance projects as diverse as small highway or airport improvements and large multimillion-dollar highway interchanges or toll roads.
Aldrete et al. 2016 (19)	Summarizes the legal framework of TRZs by local governments throughout Texas.

Financing Methods

The literature that was reviewed focused on three primary types of financing methods that rural areas can use:

- Value capture methods.
- P3s.
- Taxes and fees.

While other methods have been used before, these three methods were covered most extensively in the literature. Furthermore, the literature also noted that each one is not always viable in a given situation.

Value capture and P3s are quickly becoming more popular. This emphasizes that there must be collaboration and coordination between various levels of government, including the local level, for there to be effective decisions made regarding transportation projects and their financing.

Value Capture Methods

Value capture methods, such as tax increment financing and TRZs, had significant coverage. Mead (20), Ewoh (11), and Vadali et al. (21) discuss various forms of value capture in their work. They also found value capture quickly rising as an alternative form of financing for transportation projects that are able to increase the value of the areas in which they are constructed.

Another significant finding is that there has been “a general lack of awareness of TRZ” and the realization that knowledge of some of these value capture methods are lacking in Texas (17).

Public-Private Partnerships

P3s are another area of increased attention. Bochner et al. (15) examined the benefits that come with the use of P3s in situations where public-sector funding is lacking. These include shorter project delivery times and lower total costs in many instances. Local entities, especially in rural areas, tend to have the most difficulty in acquiring that funding.

Taxes and Fees

The literature discusses at length taxes and fees, especially sales taxes dedicated to funding transportation projects. Two major points came from this body of work:

- Goldman and Wachs (9) discuss a number of taxes and fees and come to the important conclusion that using taxes on a wider basis to fund rural transportation projects would cause transportation decision making to shift “away from planning bureaucracies and toward mechanisms of direct democracy—and away from metropolitan-level agencies and toward elected level governments.”
- Hamideh et al. (14) conclude that “it can be argued that local government transportation sales taxes have a reasonable chance of acceptance if they are properly packaged and marketed.”

While the majority of research has been done on local option transportation taxes, these findings could be applied to other types of fees and taxes and could be useful going forward. All of the research on the various financing mechanisms, in addition to partnerships with the private sector as suggested in Zietsman et al. (16), provides a starting point for the research into innovative financing methods and their use in Texas. Persad et al. (12) suggest that in the case of a prospective pass-through tolling project, a study looking at traffic and revenues would be useful in making the determination about whether tolling is indeed the correct method to finance that project.

Stakeholders

Because Texas rural areas vary widely, all parties must have significant involvement when determining which approach to take. Additional research makes the point that because of these complexities in rural transportation, any partnerships between public-sector entities or between the public and private sectors must be strong as well.

At the conclusion of his research on P3s and value capture techniques, Ewoh (11) found that “Because there is no set formula or an absolute foolproof method of designing a successful partnership, . . . each partnership must involve the commitment of local government officials and citizens to ensure effective planning and communication among the participants.”

In their discussion about finding funding to repair roadways damaged by oil and gas industry activity, Miller and Sassin (13) support this point, noting that “collaborative efforts hold the most promise for tackling these issues by keeping all parties engaged early in the decision-making

process and reaching consensus on key issues.” Vadali et al. (21) identify the need for developing and maintaining relationships between TxDOT and local governments.

Decision-Making Process

The literature also addresses the local transportation decision-making process. Kidder (10) points out that “transportation decision-making, like all other policy areas, is divided between many stakeholders at all levels.” He, along with Stommes and Brown (8), highlight the impact that TEA-21 and other laws have had on that process, which is that rural decision makers are now being empowered more in transportation decision making.

This increased emphasis on letting local leaders take a more influential role in the decision-making process has also had an effect on the financing aspect of that process (8, 10). Goldman and Wachs (9) highlight the effects that increasing the use of local taxes would have on the decision-making process, namely that it would shift power from metropolitan planning organizations (MPOs) to municipalities and counties.

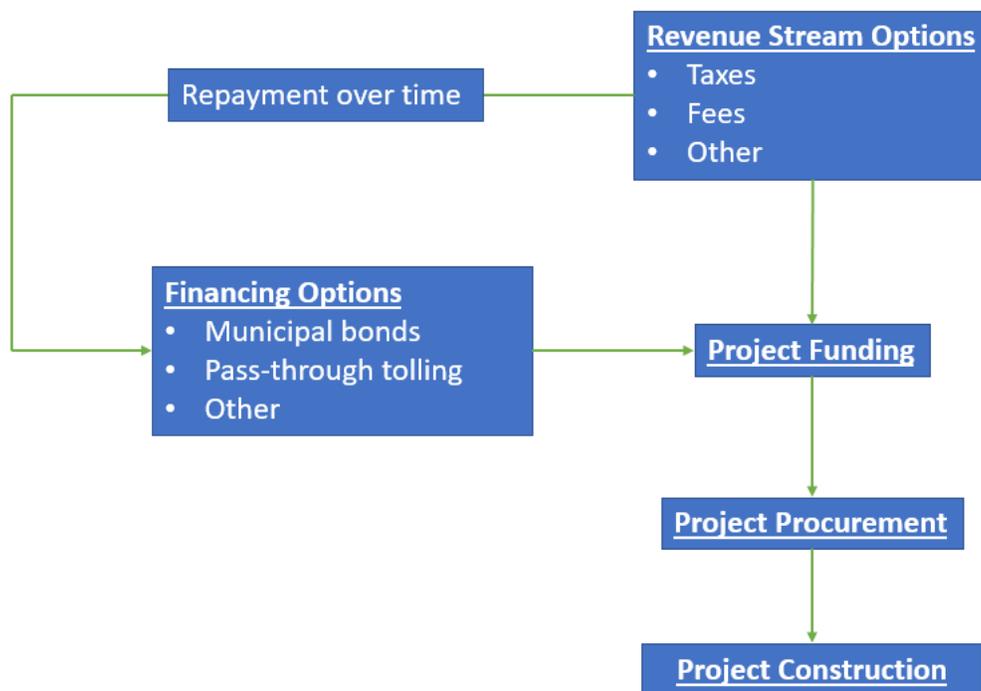
Local Transportation Revenue Stream and Financing Sources

Definitions

For the purposes of this report, a *revenue stream* refers to a method that provides revenue to build, maintain, or operate transportation infrastructure. Common revenue streams that fund transportation projects in Texas include the gas tax (both federal and state) and the state vehicle registration fee. In some cases, cities may dedicate a portion of the local sales and use tax to fund transportation infrastructure projects.

Financing refers to the method used to secure revenue to fund the construction of a transportation project. Often, revenue from several revenue streams can be used to help pay for a transportation project.

It is important to distinguish between the two terms. Transportation projects typically require a large amount of upfront capital—money the transportation agency may not have on hand at the time. Similar to how potential homebuyers obtain a mortgage (financing) in order to purchase a home and then pay back that mortgage through their income (revenue stream) over time, financing tools can help state and local transportation agencies pay for transportation projects over time. Figure 4 illustrates how state and local transportation agencies can use debt financing and revenue stream options together to deliver transportation infrastructure projects (22).



Source: (22).

Figure 4. Process for Funding and Delivering a Transportation Project.

Revenue Stream Sources

Tax Revenues and Fees

In Texas, traditional revenue stream sources vary by city, county, and TxDOT district. Municipalities tend to use available local funds from tax revenues to complete a list of needed projects.

Regional Partnerships

One of the most common sources of additional funds is local contributions from public and/or private agencies. Most rural cities often do not have the necessary tax base to spend large amounts on infrastructure projects. Thus, it is common to see partnerships between counties, local economic development corporations (EDCs), local governments, and TxDOT offices. This is more common in areas with strong transportation advocates and in entities with good regional working relationships.

Regional partnerships are important because of the nature of rural communities. Large mobility projects often serve more than just the municipality they are located in. These projects can create important linkages between cities or relieve congestion on major regional thoroughfares. Transportation projects can also accelerate economic growth in target areas. When projects meet these criteria, it is common to seek local contributions to reduce the time to project delivery. This is not limited to counties and EDCs. Private developers, businesses, and landowners can also contribute money to see these mobility projects come to fruition faster.

Financing

Local Bonds

Local entities can issue their own bonds for projects in a variety of ways:

- General obligations bonds are paid back using local taxes and fees and are fully backed by the municipality.
- Limited obligation bonds fund a specific project and are backed by a specific package set by the local government that is issuing them.

State Bonds

Texas Mobility Fund

Bonds can also come from the state department of transportation (DOT). One such bond is from the Texas Mobility Fund, which was established as a mechanism for leveraging the state's credit to attract bond investors, and was capitalized with funds from various state fees (e.g., traffic violations). It is also backed by general revenue funds (16).

GARVEE

Another state bond option is a grant anticipation bond (GARVEE). A GARVEE is issued with an anticipation of future federal funds to become available. This method can be effective for projects that will address an immediate concern.

Other Financing Methods

In addition to the methods discussed above, other innovative financing methods have also been used by state and local agencies to fund and deliver transportation projects in Texas. One such example, known as pass-through financing, allows local stakeholders to fund the upfront costs for constructing a state highway project. The state then reimburses a portion of the project cost back to the local stakeholders that drive on the new highway. Further discussion about this financing method and other financing methods appears later in this report.

Private-Public Partnerships

Bond funding options, while common, may not always be viable options for rural areas of Texas. Counties may cover a large geographic area but only carry a small population. This makes it difficult to divert funds from maintenance to specific projects. The same is also true with local EDCs. Rural cities with small populations may not have an EDC, or that entity does not have the funds needed to move a project ahead of schedule. This is where partnering with private entities may become necessary.

House Bill 20

Changes made by House Bill 20, enacted into law September 1, 2015, could impact local transportation entities. The law requires planning organizations and other local transportation entities to create a 10-year transportation plan that lays out how money given to those entities will be spent. It also mandates that TxDOT develop and implement performance metrics and performance measures that will be used in reviewing and assessing transportation plans and programs.

Local Transportation Stakeholders

A number of partners can take part in the process of planning, programming, and funding transportation projects in non-urban areas of the state. Each partner has unique roles and requirements as outlined by state law. These local funding partners include:

- Municipalities.
- Counties.
- MPOs.
- Special-purpose districts.
- TRZs.
- RMAs.
- EDCs.

This section provides additional information about the role and statutory requirements governing these entities.

Municipalities

Municipalities are often at the center of the local transportation funding process due to the large numbers of roads and bridges they are responsible for maintaining. They own over 12,000 miles of rural roads and over 72,000 miles of urban roads—roughly 27 percent of the roadways in Texas. They also own over 7,500 bridges throughout the state (23).

Municipalities command the ability to levy taxes and fees that are critical in funding projects that deal with the roads and bridges that are important to the economic vitality of their communities. Since city governments are closest to the voters and most familiar with the needs of their city, city governments are valuable partners for MPOs and state DOTs that work to allot funding and select which projects should be undertaken with that funding.

Counties

Counties also play an integral role in the transportation funding process for the same reasons that municipalities do. A large number of roads and bridges are the responsibility of Texas counties. Texas has nearly 147,000 miles of roadways that are owned by its 254 counties. County-owned roads account for nearly half (47 percent) of all roads in the state. There are also 10,220 county-owned bridges that must be maintained (23).

To keep these roads and bridges from becoming structurally deficient, counties must come up with a significant amount of funding in addition to the state and federal funding they receive.

Rural areas in which towns have limited resources are where counties can, and sometimes must, take a more invested role in transportation funding.

Metropolitan Planning Organizations

MPOs are established for urbanized areas with populations of at least 50,000, as defined by the U.S. Census Bureau. MPOs coordinate the transportation planning and programming process for a metropolitan planning area, which includes the urbanized area and the surrounding land that may become urbanized within the next 25 years.

A policy board comprised of representatives of member agencies makes decisions through a comprehensive, cooperative, and continuing process that involves numerous local, state, and federal agencies and stakeholders. The MPO staff uses a variety of data and information to make suggestions to a technical advisory committee, which in turn makes recommendations to the policy board.

The policy board makes the final decisions about which transportation projects will be included in the 25-year metropolitan transportation plan (MTP) and programmed in the four-year transportation improvement program (TIP). The MTP and TIP contain projects that have any federal funds involved or are considered to be regionally significant. Those projects must be fiscally constrained—funded by money identified through specific documented sources or money that is reasonably anticipated to be available. Those funding sources include federal, state, local, and private money.

Special-Purpose Districts

Municipalities and counties can create special districts to create and manage improvements within their respective jurisdictions. Funds for projects are generated, or reimbursed to a sponsoring agency, by members of the district through levied taxes, impacts fees, the sale of general obligation bonds, etc.

The benefit of using special-purpose districts is that they can be tailored to the needs of the population being affected. This is because the choices made within these districts are made either by local governments with a narrowed focus area or by representatives of the affected community. For mobility projects, facilities can be designed to best suit the needs of the adjacent developments. Local governments can create two primary types of special-purpose districts for the purposes of financing transportation projects: public improvement districts (PIDs) and municipal management districts (MMDs).

Public Improvement Districts

The purpose of a PID is to revitalize deteriorated infrastructure through the investment of affected landowners. This funding mechanism aims to distribute burden proportionally to affected landowners within a PID. As Mead (20) states, “The supporting theory behind assessments is that parcels that are similarly benefitted should be similarly burdened.”

The literature also states that the PID serves two critical functions (20):

- The assessment levied on property within a PID is designed to reimburse a municipality for a public improvement by placing the cost of improvements upon the benefitted property owners, thereby establishing one basic form of P3 in which both sectors pair their resources for the benefit of all within the PID.
- A PID allows a municipality to fund much of the cost of public improvements without increasing the burden on its general revenue funding.

Enacting Legislation

Table 2 summarizes the legislation pertaining to PIDs. Much of the governing legislation regarding PIDs dates back to the late 1970s. Furthermore, several changes were made during the 82nd Legislative session that broaden the authority of PIDs.

Table 2. Key Legislation Regarding PIDs.

Bill	Legislative Session Passed (Date Effective)	Summary
SB 846 Public Improvement District Assessment Act	65th (June 1977)	Approves the creation of a PID by cities for the purpose of the improvement, widening, narrowing, closing, or rerouting of streets or sidewalks (24)
HB 2011	70th (August 1987)	Adds new types of projects that are allowed to be pursued, including the construction of any streets and roads among a number of others; gives cities permission to take on a project that is outside its city limits but within its extraterritorial jurisdiction (25)
HB 3172	77th (June 2001)	Gives counties the power to create PIDs, with the stipulation that cities can object to their establishment within their jurisdiction (26)
HB 1400	82nd (June 2011)	Adds mass transportation facilities to the list of authorized projects that PIDs can fund (27)

Management

PIDs are managed by a committee selected by the governing municipality to oversee the funding decisions made within the district. The PID remains under the control of the municipality, which is able to create impact fees, levy taxes, etc., as needed.

Effect on Economic Growth

As an additional tax burden on property owners, a PID does not necessarily spur economic growth. In areas where there is little to no development, or areas with blighted and low-valued developments, a PID would be unsuccessful. On the other hand, areas that are seeing significant

growth and are in need of improved transportation facilities could use a PID. Rural areas that see an increase in economic activity, such as in growing business parks, could use this funding mechanism to further bolster the growth by providing improved infrastructure. This could include transportation facilities providing better access to major local and regional thoroughfares.

Municipal Management Districts

An MMD is created in an area that contains mostly businesses and related business facilities. MMDs are used to support growth in underdeveloped areas. This is accomplished in a way similar to a PID but differs in its management structure. An MMD is a created political subdivision that oversees the design and construction of infrastructure projects within the created district.

Enacting Legislation

Table 3 summarizes the legislation pertaining to MMDs.

Table 3. Key Legislation Regarding MMDs.

Bill	Legislative Session Passed (Date Effective)	Summary
HB 3160	71st (August 1989)	Approves the creation of MMDs and sets forth their guidelines (28).
SB 232	72nd (August 1991)	Codifies HB 3160 into Local Government Chapter 375 (29).
SB 1234	82nd (September 2011)	Gives MMDs the authority to “design, acquire, construct, finance, issue bonds for, improve, operate, maintain, and convey to this state, a county, or a municipality for operation and maintenance macadamized, graveled, or paved roads, or improvements, including storm drainage, in aid of those roads” (30). Individual districts are created by the legislature through separate laws.

Management

Funding for an MMD is not levied by the local government but by the board of directors for the MMD itself. Because of its ability to operate as its own political subdivision of the state and agency of the local municipality, funding decisions are made internally. This is done through a majority vote of the affected business owners, landowners, etc.

Effect on Economic Growth

MMDs can be just as effective or more effective than PIDs because of the governing structure created. This allows for members of the district to make decisions tailored to their needs. This also helps the stakeholders determine the amount of funding required to meet all the needs of the district. Stakeholders determine the pricing structure.

Transportation Reinvestment Zones

A TRZ is a form of tax increment financing that focuses on transportation infrastructure improvements. A TRZ facilitates value capture of the potential benefit or tax increment from a future transportation project (21).

Enabling Legislation

Table 4 summarizes the legislation pertaining to TRZs.

Table 4. Key Legislation Regarding TRZs.

Bill	Legislative Session Passed (Date Effective)	Summary
SB 1266	80th (September 2007)	Authorizes a municipality or county to designate an area as a TRZ to pursue a pass-through toll project (31). Originally, a TRZ could only be created for highway or road projects within a city or county.
HB 563	82nd (September 2011)	Expands the ability to use TRZs as a funding mechanism (32): <ul style="list-style-type: none"> • Allows cities or counties to establish TRZs for “any transportation project.” • Stipulates that “a municipality or county may not be penalized with a reduction in traditional transportation funding because of the designation and use of a transportation reinvestment zone.” • Amends Texas Transportation Code Chapter 222.106 to read that “the governing body of a municipality may contract with a public or private entity to develop, redevelop, or improve a transportation project in a transportation reinvestment zone and may pledge and assign all or a specified amount of money in the tax increment account to that entity.”
SB 1110	83rd (September 2013)	Allows TRZs to be used by a municipality or county for more than one project at a time. Requires counties to issue an order or resolution that contains proof that a prospective project “will cultivate the improvement, development, or redevelopment of the zone” that municipalities were already required to submit (33).
SB 1747	83rd (September 2013)	Establishes procedures for counties wanting to establish TRZs for infrastructure projects related to the energy industry. These zones are able to be supplemented financially by programs like impact fees. Now port authorities and navigation districts can establish TRZs as well (34).

Time Limit of TRZs

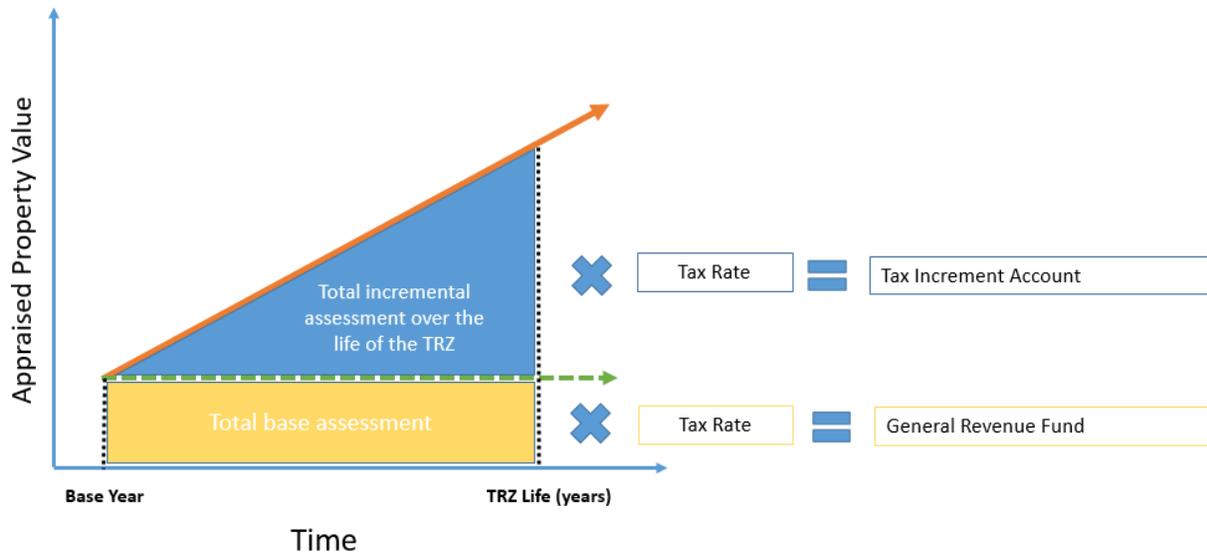
TRZs have a finite time limit. According to SB 1266, the TRZ expires at the end of the year when debt service obligation is met, and any surplus funds available upon its termination may be used to fund transportation projects within or outside the zone (35). The city or county collects any funds collected after TRZ termination and uses the funds as general tax revenue.

Types of TRZs

Vadali et al. (21) describe two types of TRZs:

- Municipal TRZs.
- County TRZs.

Figure 5 provides a simple illustration of how TRZs capture incremental revenue and then reinvest those revenues into transportation infrastructure.



Source: Adapted from (21).

Figure 5. How TRZs Capture Incremental Revenue.

Municipal TRZs

Municipal TRZs are established in partnership with a city and are suitable for projects that are entirely within city jurisdictions. In this scenario, a city creates a fund for which the captured value is accumulated. The captured value is the value of the land multiplied by the property tax rate of the given municipality. As the value of the property increases due to construction or improvement of transportation facilities in the area, the total amount of property tax revenue is increased. The increase is then captured and used to repay the capital costs of the transportation project (21).

For additional information about how municipal TRZs work, please refer to Vadali et al. (21) and Aldrete et al. (19).

County TRZs

According to Vadali et al. (21), “County TRZs are set up in partnership with county governments and are suitable within county boundaries but traverse several cities. In the case of a county TRZ, a tax increment base is calculated as the total appraised value of all real property taxable by the county within the TRZ in the base year (i.e., when the TRZ is established).”

This method can be more difficult for counties in that current legislation limits the ability of counties to collect tax increments. This must be done through the creation of a road utility district, which would encompass the same boundaries as the TRZ. The county would abate taxes in the TRZ area and tax the increment through the road utility district instead. This would allow for the increment to be captured by the county.

For additional information about how county TRZs work, please refer to Vadali et al. (21) and Aldrete et al. (19).

Current TRZs

Since legislation was first enacted into law that allowed the creation of TRZs, a number of TRZs have been established throughout the state. Table 5 shows that the most active TRZs in Texas are located in central, western, and southern areas of the state (19). Furthermore, most TRZs are located in communities outside the Texas Triangle metropolitan regions.

Table 5. Active TRZs (Current as of November 2015).

Location/TRZ	Date Established	Notes
City of El Paso TRZ No. 2	December 2010	Main corridor on I-10.
City of El Paso TRZ No. 3	December 2010	Main corridor on Loop 375 from Dyer to west of US 54 and other corridors.
City of El Campo TRZ No. 1	December 2012	Corridor along US 59 and future I-69.
Town of Horizon City TRZ No. 1	November 2012	Eastlake from Darrington Road to Horizon Boulevard.
City of Socorro TRZ No. 1	December 2013	Old Hueco Tanks Road from I-10 to Socorro Road.
City of San Marcos TRZ No. 1	December 2013	Farm-to-Market (FM) 110 from I-35 to I-35.
Cameron County TRZ No. 1	December 2013	Main corridor that follows State Highway (SH) 550, East Loop, Outer Parkway, General Brandt, FM 509, and US 281 connector projects. This includes US 77 from FM 509 to SH 550.
Hidalgo County TRZ No. 2	December 2011	Varies. Follows the Hidalgo loop project. TRZ No. 1 was established in 2008 but was never implemented. Was replaced by TRZ No. 2.
El Paso County TRZ No. 1	December 2012	Berryville to Eastlake to Old Hueco Tanks (with other corridors).

Source: (19).

Regional Mobility Authorities

An RMA is a political subdivision formed by one or more counties to finance, acquire, design, construct, operate, maintain, expand, or extend transportation projects. Each is governed by a board of directors (36).

TxDOT provides the following list of benefits of establishing an RMA (36):

- Provides local governments more control in transportation planning.
- Helps build transportation projects sooner and brings congestion relief faster.
- Improves mobility and increases safety for motorists.
- Generates revenue for additional transportation projects.

Enabling Legislation

Table 6 summarizes key legislation pertaining to RMAs. Additional statutes that govern RMAs can be found in Texas Transportation Code Chapter 370.

Table 6. Key Legislation Regarding RMAs.

Bill	Legislative Session Passed (Date Effective)	Summary
SB 342	77th (June 2001)	Authorizes the Texas Transportation Commission to create RMAs to pursue turnpike projects (37)
HB 3588	78th (June 2003)	Expands the powers of RMAs and adds numerous types of projects that they can take on, such as turnpike projects, a system, passenger or freight rail facilities, a roadway with a functional classification greater than a local road or rural minor collector, ferries, airports, pedestrian or bicycle facilities, intermodal hubs, an automated conveyor belt for freight movement, a border crossing inspection station, an air quality improvement initiative, a public utility facility, and any project approved by the state implementation plan (38)
HB 1112	82nd (June 2011)	Adds additional project types to those eligible to be done by RMAs (39)
SB 1489	83rd (May 2013)	Further expands the types of projects RMAs can pursue by adding bridges and port security, transportation, or facility projects (40)

Authorized Finance Activities

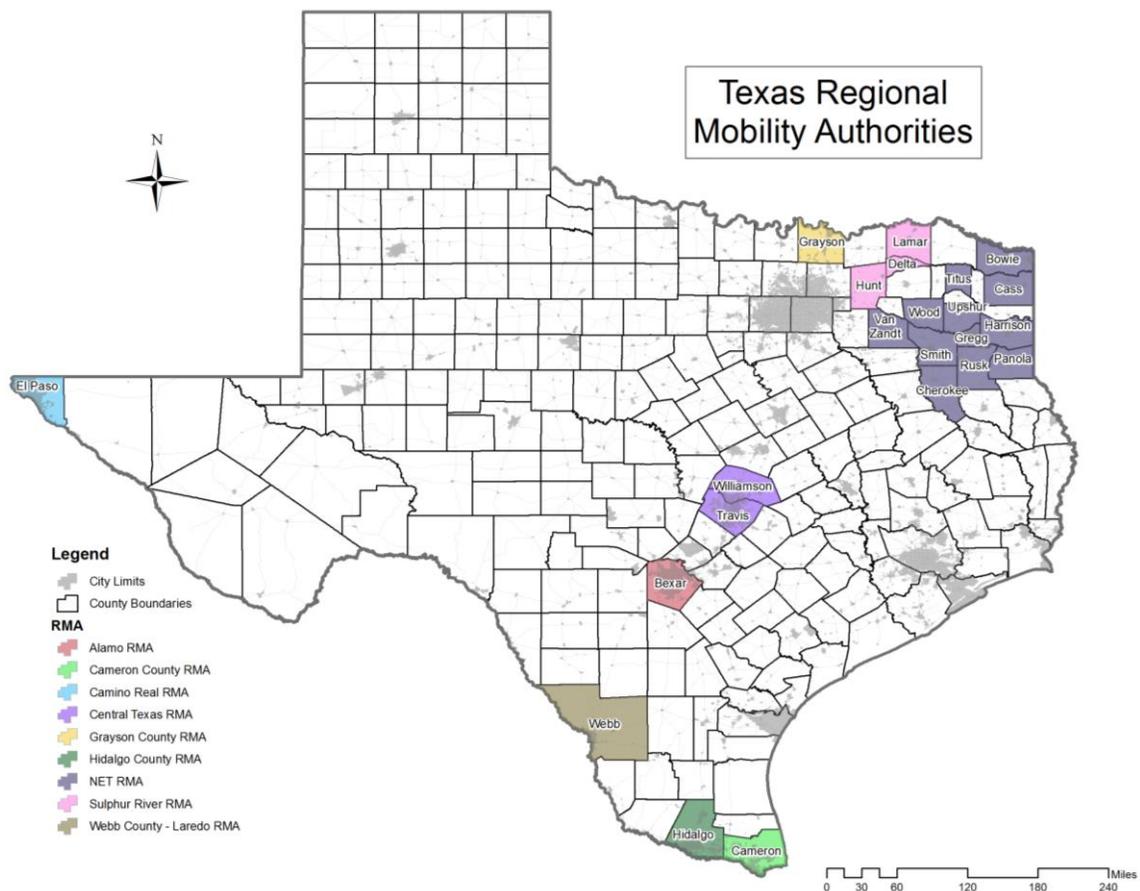
RMAs, like other tolling authorities, have a general set of powers to study, design, finance, construct, maintain, and operate these facilities. RMAs also have broad authority to plan and arrange alternative financing options. Project finance activities that RMAs are authorized to pursue include the following (18):

- Issue revenue bonds.
- Establish and impose tolls, fees, and fares for the use of transportation projects.
- Use surplus revenue to finance other local transportation projects.

- Apply for federal highway and rail funds (with approval from TxDOT).
- Spend loans, grants, gifts, and other contributions for purposes including the construction of a transportation project.
- Receive and spend money, property, labor, or other things of value from any source.
- Apply for state infrastructure bank loans.
- Maintain a revolving fund.
- Maintain a feasibility fund.

Current RMAs

Texas currently has nine RMAs. Because RMAs vary significantly, normative statements regarding whether establishing an RMA is appropriate for every rural and small urban region are difficult. However, as shown in Figure 6, RMAs have been initiated in large and small urban areas across Texas.



Note: Map created by TTI using data collected for regional mobility authorities.

Figure 6. Map of Established RMAs in Texas.

Economic Development Corporations

EDCs have been taking a more instrumental role in the funding of local infrastructure projects as well (see Table 7). They got their beginnings with the passage of SB 1275, also known as the Development Corporation Act of 1979. This law gave cities the ability to form economic development corporations, but they could only be funded through private sources. These entities are funded through Type A and Type B economic development sales taxes that many cities have implemented. This authority to devote sales tax revenue for the purpose of funding these EDCs was given to eligible cities via amendments to the Development Corporation Act in SB 971 and SB 376, passed during the 71st and 72nd Legislative Sessions, respectively. SB 971 authorized what were then known as Section 4A (now referred to as Type A) sales taxes for cities in counties with less than 500,000 residents. Notably, SB 971 prohibited projects “the primary purpose of which is to provide transportation facilities.” In the next legislative session, SB 376 created what were known as Section 4B (now called Type B) taxes, which can be used for a variety of purposes including “related area transportation facilities.” HB 916 was also passed during the 72nd Legislature, allowing cities with populations less than 50,000 that are located in at least two counties and those that are located within the jurisdiction of a metropolitan rapid transit authority that has a city with a population of 750,000 to 1.2 million, but that have not chosen to become a part of the authority, to enact 4A taxes.

While these taxes are generally not approved for use on transportation and infrastructure projects, there are some notable exceptions. In 1993, the Development Corporation Act was amended by HB 2297 to include projects that “promote or develop new or expanded business enterprises, including...streets and roads” as ones that could be funded through 4A taxes. In addition, the bill gave cities that were eligible to raise 4A taxes the ability to also raise 4B taxes. Four years later, HB 1310 gave cities the power to extend 4A taxes instead of being forced to let them expire. HB 2912, passed during the 78th Legislature, amended the Development Corporation Act to allow the board of directors of an economic development corporation to approve projects that are “necessary to promote or develop new or expanded business enterprises,” including streets and roads. One difference between this bill and HB 2297 is the requirement that the projects have to help create or retain “primary jobs.” Since 2005, no major substantive changes have been made to the Development Corporation Act that pertain to the construction of roadway projects.

Table 7. Key Legislation Regarding Local Taxes and EDCs.

Bill	Legislative Session Passed (Date Effective)	Summary
SB 1275 Development Corporation Act of 1979	66th (April 1979)	Gives cities the ability to form EDCs, but EDCs can only be funded through private sources (41, 42)
SB 58	70th (August 1987)	Sets a cap of 2 percent on local taxes that a local entity can levy from all sources (43)
SB 971	71st (June 1989)	Authorizes cities in counties with less than 500,000 residents to levy 4A (now referred to as Type A) sales taxes to fund EDCs; prohibits projects with a primary purpose to “provide transportation facilities” (44)
SB 376	72nd (March 1991)	Creates 4B (now referred to as Type B) sales taxes, which can be used for “related area transportation facilities” (45)
HB 916	72nd (May 1991)	Allows more cities to enact 4A taxes: <ul style="list-style-type: none"> • Cities with populations less than 50,000 that are located in at least two counties • Cities that are located within the jurisdiction of a metropolitan rapid transit authority that has a city with a population of 750,000 to 1.2 million, but that have not chosen to become a part of the authority (46)
HB 2297	73rd (September 1993)	Expands the types of projects that 4A taxes can fund to include those that “promote or develop new or expanded business enterprises, including...streets and roads” (47); gives cities that were eligible to raise 4A taxes the ability to also raise 4B taxes
HB 1310	75th (September 1997)	Gives cities the power to extend 4A taxes via an election instead of being forced to let them expire (48)
HB 2912	78th (June 2003)	Allows an EDC board of directors to approve a project that is “necessary to promote or develop new or expanded business enterprises,” including streets and roads if it creates or retains “primary jobs” (49)

Local Options Authorized under Federal and State Law

Texas has a number of statutes and laws that pertain to the alternative revenue stream and financing methods discussed in this report. This section covers many options currently authorized under federal and state law that could be helpful to project stakeholders in small urban and rural areas.

Revenue Stream Options

As discussed previously, for the purposes of this report, a *revenue stream* refers to a method that provides revenue to build, maintain, or operate transportation infrastructure. Common revenue streams that fund transportation projects in Texas include the gas tax (both federal and state) and the state vehicle registration fee. In some cases, cities may dedicate a portion of the local sales and use tax to fund transportation infrastructure projects.

Table 8 provides a brief summary of different options currently available for local governments to consider.

Table 8. Transportation Revenue Stream Options Available to Texas Local Governments under Texas Law.

Local Option	Level	Statute Code	Key Provisions
Vehicle registration fees	State/Local	Texas Transportation Code Chapter 502	<ul style="list-style-type: none"> State legislation sets a fee required to be paid at the time of vehicle registration. Texas counties can collect local fees in addition to the default state rate. Vehicle size and use further determine total amount paid.
Local sales and use tax	Local	Texas Administrative Code Rule §3.334; Texas Transportation Code Chapter 228 Section 254	Local entities, including cities, counties, transit authorities, and special-purpose districts, can impose a sales tax of up to 2 percent with voter approval.
Impact fees	Local	Local Government Code Chapter 395	Cities may enact an impact fee to pay for construction costs associated with capital improvements and facility expansions.
Tolling	State/Local	Texas Transportation Code Chapter 201 & 228	Defines what is considered a state toll road project and how certain local entities can partner with TxDOT to fund, finance, and maintain tolled facilities in Texas. This law also stipulates under what circumstances a toll project may be eligible for TxDOT cost participation.

Local Option	Level	Statute Code	Key Provisions
Tax increment financing	Local	Texas Tax Code Chapter 311	<ul style="list-style-type: none"> Counties and municipalities create tax increment financing districts. The cost of improvements within the districts is repaid through the future tax revenues levied against property owners.

Vehicle Registration Fees

Texas currently taxes vehicles through the vehicle registration process. This is levied on a county basis. Unlike the gas tax, vehicle registration costs are not directly affected by fuel efficiency.

State law authorizes specific counties to adopt a vehicle registration fee. A number of counties have taken advantage of this. Some of these laws specify the potential use of the resulting revenues. This could provide another revenue stream for rural and small urban counties to generate additional funds but may require the passage of additional legislation.

Local Sales and Use Tax

In Texas, local entities, including cities, counties, transit authorities, and special-purpose districts, can charge a sales tax of up to 2 percent with voter approval. Texas Transportation Code Section 228.254 states that “a local governmental entity other than a nonprofit corporation may, upon the required vote of the qualified voters, in addition to all other debts, issue bonds or enter into and make payments under agreements with the department” and may “levy and collect taxes” in order to do so.

For the most part, these entities can in turn determine how the revenues are put to use. The guidelines and limits of this taxing power are explained further in Texas Administrative Code Rule Section 3.334.

Impact Fees

Enabling Legislation

Table 9 summarizes the legislation pertaining to impact fees.

Table 9. Key Legislation Regarding Impact Fees.

Bill	Legislative Session Passed (Date Effective)	Summary
SB 336	70th (June 1987)	Authorizes cities to charge impact fees to help with costs from construction of “capital improvements or facility expansions” including roadway facilities. The law defines roadway facility as “arterial or collector streets or roads...but does not include any roadways or associated improvements designated on the federal or Texas highway system” (50)
SB 1329	74th (May 1995)	Gives cities the option to use impact fees to make debt service payments for projects that are part of a capital improvement plan (51)
SB 243	77th (September 2001)	Changes the way that the amount of the impact fees is calculated; makes several other changes to the implementation of an impact fee (52)

Oil and Gas Industry Fees

The increased activity of oil and gas mining in rural areas of Texas has made an impact on low-volume roadways. The increased maintenance concern for rural communities is becoming a burden that the Texas Legislature has addressed.

For example, Miller and Sassin (13) note that “many of Texas’ Farm-to-Market, Ranch-to-Market, and local county roadway systems are not designed to withstand the heavy loads and higher traffic volumes arising from energy development.” The authors address the usage of performance-based measures to reduce the damaging effects of the large vehicles used in the extraction efforts. Financing these measures is also highlighted to prepare rural municipalities and counties for the increased costs.

The authors look at two types of funding that have been used in DeWitt County, Texas, both requiring a partnership between the oil and gas companies and the local agencies:

- Oversized load permits for the trucks damaging the roadways. This did not produce a viable amount of revenue to address the concerns.
- A per-well impact fee on the land being used for mining in the area.

The report mentions an agreement between the county and the oil and gas companies to assess an \$8,000-per-well impact fee. This fee generated an additional \$1.8 million per year. Rural communities affected by the energy boom may be able to use these types of P3s to help alleviate maintenance and mobility concerns.

Tolling

Toll roads have been in the United States since 1792. With the introduction of the Dallas-Fort Worth Turnpike in 1957, modern toll facilities have slowly gained popularity in Texas. Private

entities are created that build, operate, and maintain the roadway. The municipality, as a benefit, is provided with additional transportation facilities at little to no costs. In addition, the risks to the municipality are greatly reduced.

Persad et al. (12) found the following concerning tolling:

- Users of a utility should pay in proportion to their consumption. In this respect, tolling is a more direct charge than the gas tax because it is not dependent on fuel type or other variables such as vehicle fuel efficiency.
- Through competition, the private sector provides services and innovations that may be unavailable to the government. In using tolled facilities, customers have the choice of a premium service for a price.

The drawback to tolling is that it requires certain economic conditions to be successful. To be economically viable, there must be a certain usage level and a willingness by the population to pay to use the facility. This assumes that the toll has a time-saving effect for the end user. It also assumes that the amount paid is proportional to the benefit gained. Unfortunately, rural areas rarely have the congestion or mobility needs that require tolling. However, some tolling facilities have been delivered in small urban areas, such as Loop 49 in Tyler, Texas.

Tax Increment Financing

A tax increment financing (TIF) district is a value capture method aimed to revitalize areas with aging infrastructure and to create economic growth.

Mead (20) describes the method of TIF:

The Act is premised on the assumption that a new development or redevelopment project in a particular area (the “TIF District”) will result in both increased real property values and an increased tax base. Basically, the “tax increment” is the difference between the amount of taxes that would be raised from the completed project and the amount of taxes by the property generated prior to establishment of the TIF District and the subsequent development or redevelopment.

As the property owner continues to pay the taxes, the portion of the taxes above the base are deposited into a special tax increment fund (a TIF Fund) that can be used to pay for public improvements, which may include site acquisition, facade easements, and other innovative redevelopment needs.

While the author focuses on historic downtown redevelopment, the concept of TIF can be used in a variety of ways. One such way is through the captured value of new and improved transportation facilities.

Financing Options

As discussed previously, *financing* refers to the method used to secure revenue to fund the construction of a transportation project. Often, revenue from several revenue streams can be used to help pay for a transportation project.

Table 10 provides a brief summary of different options currently available for local governments to consider.

Table 10. Transportation Revenue Stream Options Available to Texas Local Governments under Law.

Local Option	Level	Statute Code	Key Provisions
Pass-through tolling	State	Texas Transportation Code Chapter 222 Section 104; Chapter 228	A per-vehicle or per-vehicle-mile fee determined by the number of vehicles using a highway.
Comprehensive development agreements	State	Texas Transportation Code Chapter 371	<ul style="list-style-type: none"> • Umbrella term used by TxDOT for P3s. • Specifically outlines comprehensive development agreement use for highway toll projects. • Allows for the financing of a transportation project to be conducted by a private entity through a design-build or concession agreement.
Local debt financing	Federal	23 U.S. Code Section 123	<ul style="list-style-type: none"> • In addition to more traditional local project financing methods such as general obligation and revenue bonds, the federal government offers a debt financing instrument known as grant anticipation revenue vehicles, or GARVEE.
Credit assistance	Federal	23 U.S. Code	<ul style="list-style-type: none"> • Credit assistance programs can be provided through programs authorized under federal law, such as state infrastructure banks and Section 129 loans.
Advance construction	Federal	23 U.S. Code Chapter 1 Section 115	<ul style="list-style-type: none"> • May authorize states to proceed with a transportation project in absence of an obligation that covers the federal shares of a given project. • Allows states and local governments to begin projects faster.

Local Option	Level	Statute Code	Key Provisions
Tapered match	Federal	23 U.S. Code Chapter 1 Section 121	<ul style="list-style-type: none"> • Allows a project to move forward immediately with federal funds. • Local/state match is provided later in the project delivery timeline, allowing more time for these funds to be collected.
Flexible match	Federal	23 U.S. Code Chapter 3 Section 323	<ul style="list-style-type: none"> • Allows third-party and other federal funds as a local match. • Can be used by several categories of federal transportation funds.
Toll credits	Federal	23 U.S. Code Chapter 1 Section 120	<ul style="list-style-type: none"> • Excess funds generated from toll revenues can be used as toll credits. • Can be used as a soft match for required state matches.

Pass-Through Tolling

An additional source of revenue that is being used to fund transportation projects is tolling. Tolls are calculated based on measured road volume, and then a set fee amount is paid to the operating agency. In many cases, a private company provides the upfront investment to construct the project. In the P3, the private agency finances, designs, constructs, and maintains the roadway. In return, the state or local agency reimburses the agency based on the volume that is measured along the corridor.

Enabling Legislation

Table 11 summarizes the legislation pertaining to pass-through tolling.

Table 11. Key Legislation Regarding Impact Fees.

Bill	Legislative Session Passed (Date Effective)	Summary
HB 3588	78th (June 2003)	Authorizes pass-through tolling for the purposes of reimbursement for construction, maintenance, and operation of a toll project. TxDOT can enter into an agreement “with a public or private entity that provides for the payment of pass-through tolls to the public or private entity as reimbursement for the construction, maintenance, or operation of a toll or non-toll facility on the state highway system by the public or private entity” (53).
HB 2702	79th (June 2005)	Expands the allowable uses of pass-through tolling to include reimbursement for designing, developing, and financing road projects in addition to constructing, maintaining, and operating it (54).
HB 2650	79th (September 2005)	Gives local governments the authority to enter into pass-through toll agreements; stipulates that “a local government may enter into an agreement with the department or a private entity under which the local government assists in the financing of the construction, maintenance, and operation of a turnpike project located in the government’s jurisdiction in return for a percentage of the revenue from the project” (55).
HB 2139	79th (June 2005)	Gives local entities the power to take full responsibility for projects involving pass-through tolling. TxDOT can “delegate the full responsibility for design, bidding, and construction, including oversight and inspection, to a municipality, county, regional mobility authority, or regional tollway authority” for a project involving pass-through tolling, which further expands the power of local entities (56). Requires that these entities abide by various criteria, procedures, and specifications regarding design, construction, and contract administration that are set forth by the state.
SB 19	82nd (June 2011)	Gives the ability to be the first to declare intent to pursue a toll project to a local toll project entity (57).

Pass-Through Tolling Agreements

Persad et al. (12) provide multiple examples of how pass-through tolling agreements (PTAs) are being used effectively in rural areas. The authors say that “PTAs have been an exceptionally popular financing tool, with many counties and cities across Texas petitioning the TxDOT Commission for such projects.”

PTAs, because of their nature, require specific characteristics to be considered for state reimbursement. TxDOT's *Application Guidelines for Pass-Through Financing of Highway Projects* describes the following requirements of PTAs (58):

- Financial benefits to the state.
- Local public support for the project.
- For a highway project, whether the project is in the department's Unified Transportation Program.
- The extent to which the project will relieve congestion on the state highway system.
- Potential benefits to regional air quality that may be derived from the project.
- The compatibility of the proposed project with existing and planned transportation facilities.
- For a highway project, the entity's experience in developing highway projects if the proposer is a public entity.
- For a railway project, the entity's experience in developing railway projects if the proposer is a public entity.
- The qualifications of the proposer to accomplish the proposed work if the proposer is a private entity.
- The financial capability of the proposer to make all projected pass-through payments.
- Whether the entity has or intends to designate a contiguous geographic area in the jurisdiction of the entity as a TRZ under Transportation Code, Chapter 222, Subchapter E, if the proposer is a public entity.

These criteria allow for the flexibility for project selection as long as there is ample public support for such projects. This would allow rural projects with lower demand to have a chance at acquiring funding if the state has available funds. However, according to TxDOT's FY 2015 Unified Transportation Plan, there are no new projects in the Pass-Through Finance Program through its Category 3 funding (58).

Comprehensive Development Agreements

Comprehensive development agreements (CDAs) are a possible solution to the shortfall in revenue for transportation projects. A CDA is a form of P3 that provides flexibility for the private organization. P3s are designed to leverage funding from private organizations in a safe and mutually beneficial relationship. Public agencies can reduce project delivery timelines by using the most effective funding and design options for each project.

Enabling Legislation

The statutes that pertain to CDAs focus on their use in regard to toll roads. Table 12 summarizes the legislation pertaining to CDAs. Texas Transportation Code Chapter 371 outlines CDAs and how they can be used to finance certain transportation projects.

Table 12. Key Legislation Regarding CDAs.

Bill	Legislative Session Passed (Date Effective)	Summary
HB 2702	79th (June 2005)	First authorizes CDAs in Texas (59)
SB 792	80th (June 2007)	Prohibits the use of CDAs for building toll roads (60)
SB 1420	82nd (September 2011)	Approves a number of roadway projects that could be undertaken via CDAs (61)
SB 1730	83rd (September 2013)	Expands the ability to use CDAs to projects that are on state highways that are not tolled; extends a deadline for when CDAs have to cease to be used (62)

Strengths and Weaknesses

CDAs are the primary form of P3 used in Texas. P3s can give local governments quicker access to a large amount of capital that would normally take much longer to acquire through tax revenues. Experts on these partnerships point to the innovation and increased ability to complete projects that otherwise would not be started as strengths of involving the private sector more.

However, there are several concerns that local governments must take into account. Bloomfield (63) points out that many municipalities and other local entities may not “have the capacity and leverage to design and implement long-term public-private partnerships that resemble the theoretical models described by advocates of such arrangements.”

Local Debt Financing

As discussed previously in this report, it is common for municipalities to issue bonds for large transportation projects. Bonds allow for an immediate influx of funds and expedited projects. While this allows for faster congestion, economic, and environmental benefits, the issuance of bonds comes with the obligation of repayment by the issuer. Sometimes, the added benefit of a project being delivered earlier does not offset the long-term costs of the bonds.

To assist local governments, the Federal Highway Administration (FHWA) has developed programs that assist in debt financing. The two main programs of FHWA’s Innovative Program Delivery are:

- GARVEEs, debt financing instruments that use the anticipation of future federal transportation funds to pay off existing debt from the issuance of bonds or some other loan mechanism.

- Private activity bonds, which provide an alternate debt issuance mechanism where a private entity serves as a conduit for investment in transportation projects.

Credit Assistance

While bonding is one tool available to local governments, it may not always be a viable option. Credit issues, allocated risks, and high interest rates act as barriers for municipalities to deliver the projects needed for their community. With rural parts of Texas, funds are not always readily available for transportation projects, and bonding is necessary to build key economic transportation facilities.

FHWA offers several programs aimed at reducing and removing these credit barriers. Three FHWA programs, as described by FHWA (64), are:

- State Infrastructure Bank (SIB) loans—“SIBs are state-run revolving funds that make loans, provide credit enhancements, and other forms of non-grant assistance to surface transportation projects. The SIB Program allows states to capitalize revolving loan funds with regularly apportioned Federal-aid (Title 23) highway funds. Separate transit and rail accounts may also be capitalized with Title 49 Federal-aid funds.”
- Section 129 loans—“Section 129 (a)(7) of Title 23 commonly referred to as Section 129 loans allow states to lend apportioned Federal-aid highway funds to toll and non-toll projects generating dedicated revenue streams. Revenue sources can include, but not be limited to, tolls, excise taxes, sales taxes, real property taxes, incremental property taxes, and motor vehicle taxes.”
- Railroad Rehabilitation and Financing (RRIF)—“The RRIF program was established by the Transportation Equity Act for the 21st Century (TEA-21) and amended by the Safe Accountable, Flexible and Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU). Under this program the FRA Administrator is authorized to provide direct loans and loan guarantees up to \$35.0 billion to finance development of railroad infrastructure. Up to \$7.0 billion is reserved for projects benefiting freight railroads other than Class I carriers.”

These credit assistance tools can enhance local governments’ ability to borrow funds in order to complete transportation projects. FHWA offers a wide range of programs to eliminate barriers for multiple types of transportation projects.

Cash Management Tools

Several cash management options are also available to help project stakeholders in small urban and rural areas obtain the cash flow upfront to begin construction:

- Advance construction.
- Tapered match.

- Flexible match.
- Toll credits.

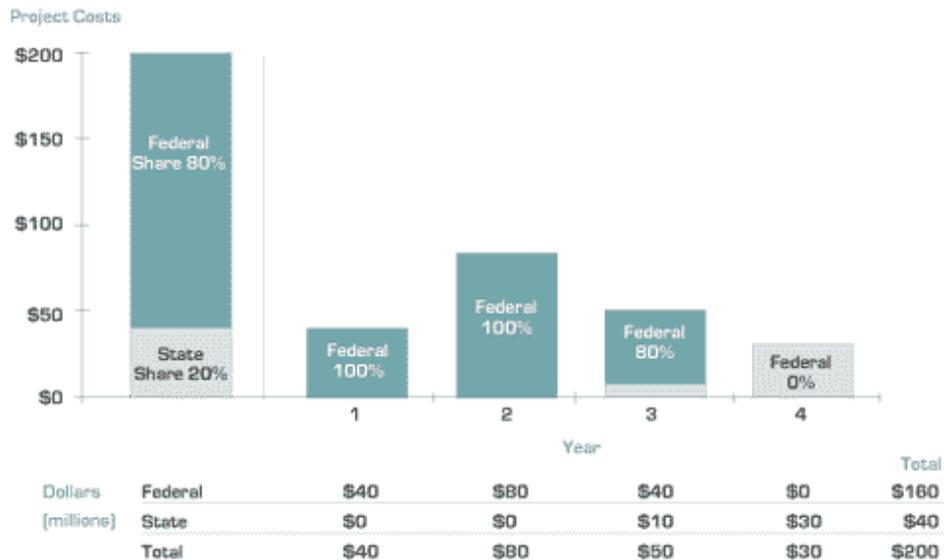
Advance Construction

Advance construction allows TxDOT to begin a project in the absence of sufficient funding on hand to cover the federal share of the project’s cost. A partial conversion of advance construction allows TxDOT to begin a project for only a portion of the federal share of the project costs. This flexibility can allow TxDOT to begin some projects earlier (65).

Tapered Match

Tapered match allows the federal share of a project to vary each year as long as the final contribution does not exceed the originally authorized federal share.

Figure 7 illustrates one example of how the federal funding share each year could vary, giving a state DOT greater flexibility to secure the necessary financing. For example, the tapered match program means that the federal aid could cover as much as 100 percent of the total project costs for one year as long as this is offset by the state share portion in subsequent years (66).



Source: (66).

Figure 7. Illustration of Hypothetical Tapered Match Program.

This method is also useful when federal funds can be used to cover the first 80 percent and state or local funds (via either locally generated revenue or other methods) cover the final 20 percent of a transportation project.

Flexible Match

Flexible match allows public and private contributions to be counted toward the non-federal match for federal-aid projects. Monies from other federal agencies are precluded by federal law

from paying for the local portion of a federal-aid project, except in a few instances where funding from other federal programs may be used.

Flexible match is also a useful tool in constructing projects in rural areas because it allows TxDOT to apply the value of third-party donated funds, services, material, or land toward the non-federal share of a transportation project's costs. Several federal provisions (23 U.S. Code Chapter 156 is one example) give increased flexibility to TxDOT and local governments in acquiring and managing income received from the sale of property that was acquired via federal funds (66).

Toll Credits

Federal law permits the non-federal share of a transportation project's cost to be met through the use of toll credits. These credits are earned when TxDOT, a toll authority, or a private entity pays for an eligible transportation investment via toll revenues earned from an existing investment. Revenues required to service debt, provide returns to investors, or operate and maintain the toll facilities are not eligible to count toward toll credit use. The total amount of excess revenues spent on eligible highway projects (less the proportion of federal funds that make up the total cost of the project) is used to determine the total number of toll credits available.

In addition to federal law, Texas law also defines these credits (known in Texas as transportation development credits) and stipulates the process that entities interested in applying for them should follow (67). Figure 8 provides a brief summary of this process (68).

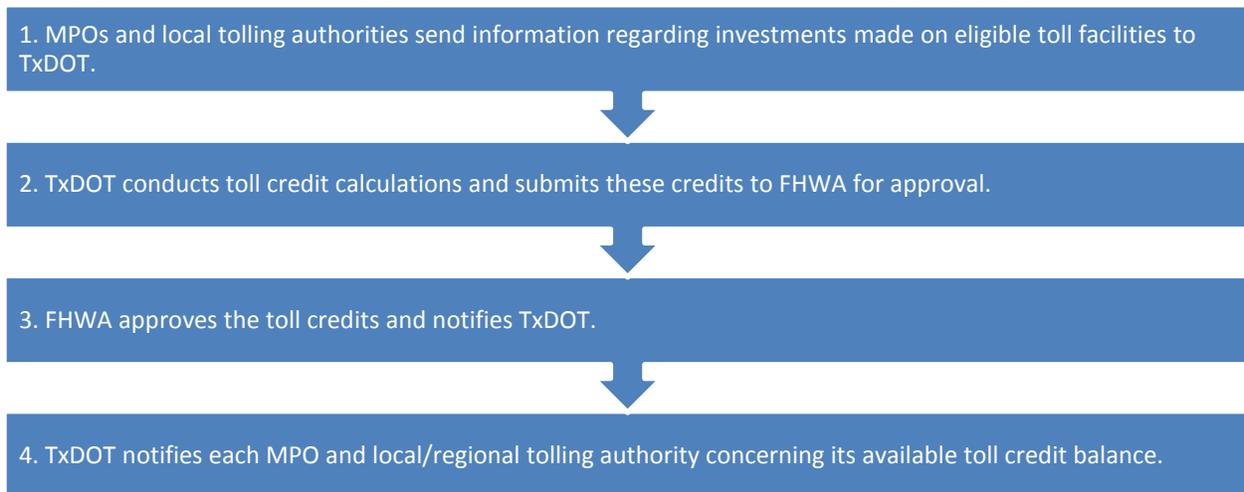


Figure 8. TxDOT Transportation Development Credit Process.

While transportation development credits can provide opportunities for regional and local governments outside the Texas Triangle megaregion, those opportunities are limited. In Texas, 75 percent of these credits are allocated to the MPO in whose region those credits were earned; the remaining 25 percent of these toll credits are allocated on a competitive statewide basis. As shown in Table 13, as of July 15, 2015, approximately \$182.6 million is available statewide (69).

Table 13. Transportation Development Credit Balances (as of July 15, 2015).

Account	Balance
Capital Area Metropolitan Planning Organization	\$784,282,287
Houston-Galveston Area Council	\$544,977,757
North Central Texas Council of Governments	\$465,486,222
Statewide	\$182,623,125
Public Transit	\$14,270,765
Total	\$1,941,640,156

Source: (70).

Local Options Not Authorized under State Law

There have been efforts in recent legislative sessions to further increase the revenue sources that counties and municipalities can use to fund transportation projects. These proposed changes have included both altering existing sources of revenue and adding new ones. This section describes some of the efforts to pass legislation for these purposes. These options have yet to be enacted into state law.

Local Option Motor Fuels Tax

The primary funding source for transportation and infrastructure projects at both the state and federal level is the motor fuels tax. Currently, Texas levies its own gas tax, but not all of the funds raised go toward transportation projects; 25 percent of the motor fuels tax goes toward public education.

A fuel tax at the local level would allow municipalities to levy their own per-gallon tax. Cities would have the ability to set the tax and use the money for their own system's maintenance and mobility needs (9). Texas currently does not offer the ability for municipalities to set their own fuel tax. Legislation and support from local populations would be needed to enact this. Industries that rely on purchasing gasoline at the local level would suffer from this additional tax. This, in turn, may slow economic growth. A similar scenario is seen in the implementation of PIDs.

Local Option Vehicle Registration Fees

With a few exceptions, cities have not been permitted to impose and collect revenue from imposing their own local vehicle registration fee. Many counties collect an additional amount with vehicle registration. The following counties have been allowed to raise their vehicle registration fees:

- HB 1573 allowed Bexar County to increase fees by \$10.
- HB 1198 allowed Webb and El Paso Counties to increase fees.
- Hidalgo and Cameron Counties have also been allowed to do so in the past (71).

In the 84th Legislative Session, HB 392 and SB 579 proposed allowing certain counties to raise their vehicle registration fees by up to \$20 with the approval of the county's commissioner's court. Both were left pending in their respective committees.¹

¹ For more information, see:

- McClendon, R. Texas State Legislature 84th Regular Session (2015). House Bill 392.
- Watson, K. Texas State Legislature 84th Regular Session (2015). Senate Bill 579.

Local Option VMT Fees

A vehicle miles traveled (VMT) fee is another financing option that the Texas Legislature has considered but not approved. During the 81st Legislative Session, two bills were introduced that included some form of a vehicle mileage fee (but were not enacted into law):

- SB 942 would have allowed a county to enact a mileage-based road user fee (72).
- HB 3448 would have allowed voters to approve the enactment of a mileage fee of 1 cent per VMT (73).

The next session attempted to pass HB 3092, which included the ability for counties to enact the fee of 1 cent per VMT; however, this bill too failed to advance out of the House Transportation Committee (74).

Other Options

In addition, there have been other attempts to give local governments the capacity to create new sources of revenue for transportation projects, but they have failed.

SB 855

The most notable attempt to expand this ability was SB 855, proposed in 2009. The latest version of the bill (CSSB 855) that was considered called for allowing certain counties to impose a 10 cent gasoline tax. The original version of the bill passed by the senate also called for giving local entities the power to raise several taxes and fees as well as levy a number of new fees with voter approval. These included a retail sales tax on gasoline, mobility improvement fee, parking management fee, annual motor vehicle emissions fee, driver's license renewal fee, and Texas new resident roadway impact fee.

Opponents cited the 2009 economic recession as one reason not to pass the bill. They also claimed that "if metropolitan areas were to establish local sources of revenue for transportation projects, it essentially could localize funding for transportation improvements." Furthermore, they stated that "the responsibility for expanding and maintaining state highways rests with the state and should not devolve to local entities which, by nature, are not focused on statewide concerns" (75).

HB 3518

HB 3518 was introduced during the 82nd Legislative Session and put forth a number of fees that counties could opt to enact with voter approval. The proposed revenue sources were a retail sales tax on gasoline or a mobility improvement fee that would be paid when registering a vehicle. This bill was also left pending in the House Transportation Committee (76).

Project Case Studies

TTI researchers selected four transportation projects for further study:

- John Ben Shepperd Parkway in Odessa.
- US 190 Bypass in Copperas Cove.
- SH Spur No. 601 in El Paso.
- Loop 49 in Tyler.

Researchers selected these case studies because they represent a diverse set of projects outside the four large Texas Triangle metropolitan areas that were delivered through the use of creative funding match agreements and financing tools. In all four instances, project leaders developed broad coalitions of federal, state, and local partners and maximized the use of recently authorized federal and state credit and funding programs.

John Ben Shepperd Parkway in Odessa

The John Ben Shepperd (JBS) Parkway expansion project is a transportation facility located in eastern Ector County, Texas.

Project Location and Description

As shown in Figure 9, the JBS Parkway extends from SH 338 on the north end to 0.7 miles south of FM 3503. Most of the JBS Parkway facility is located within the Odessa city limits. The southernmost portion is located outside the Odessa city limits but within Ector County.

Several projects have comprised the JBS Parkway expansion over the past 10 years:

- JBS Parkway/I-20 overpass: This interchange was constructed to carry I-20 traffic over the JBS Parkway. TxDOT led this reconstruction project, which cost approximately \$13.9 million.
- JBS Parkway/Business I-20 interchange: This interchange was constructed to improve travel times at JBS Parkway and Business I-20. This \$23.8 million interchange now carries JBS Parkway traffic over a Union Pacific railroad line and Business I-20, enhancing safety and improving travel times.
- JBS Parkway Business Park/south extension: This project extended the JBS Parkway south from I-20 to an area just east of the Quail Run Energy Center at a total project cost of approximately \$1.7 million.

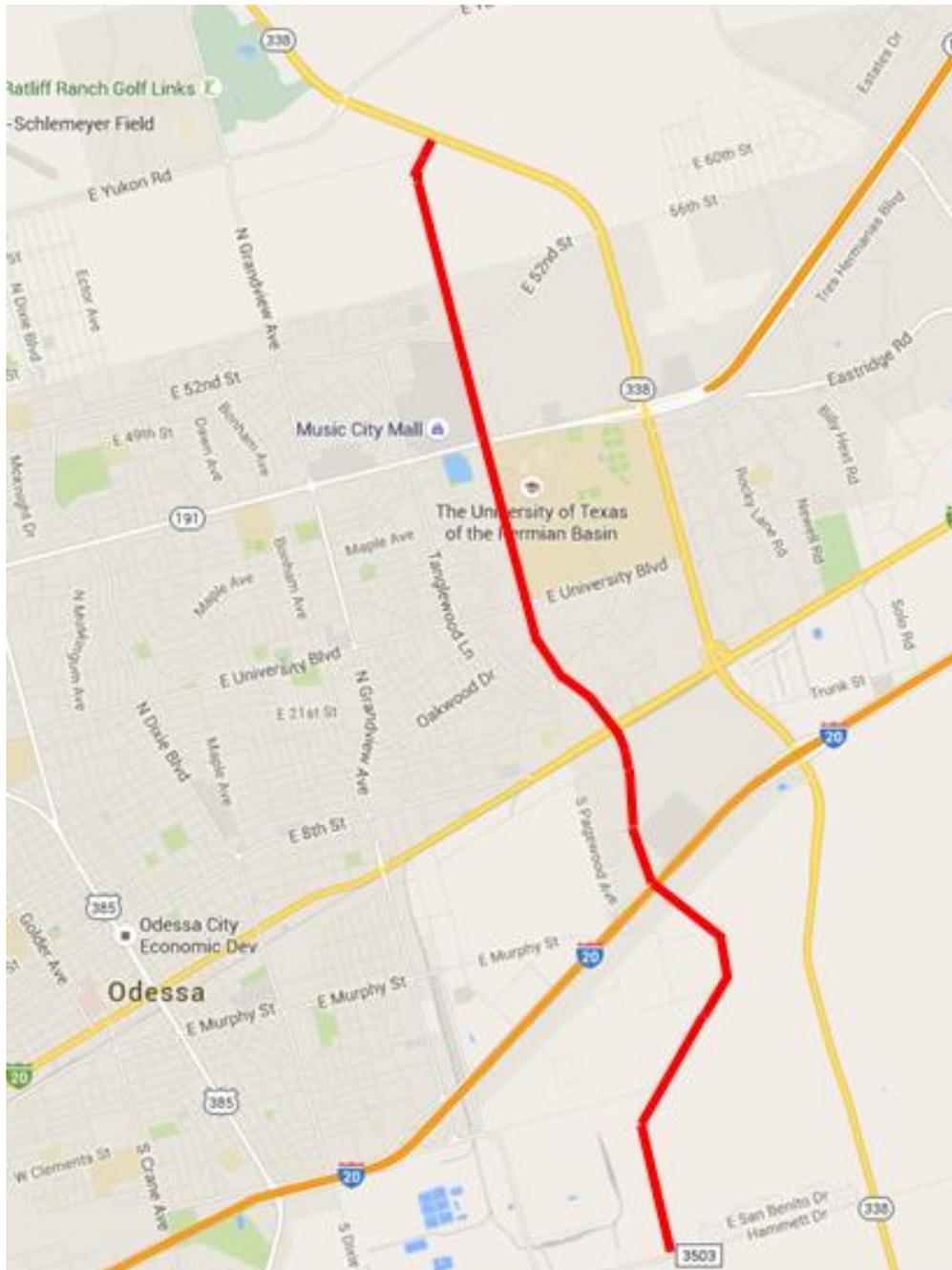


Figure 9. JBS Parkway Facility Map.

Partners

These projects likely would not have been delivered had it not been for state and local funding commitment partnerships between TxDOT, the City of Odessa, the Odessa Development Corporation (ODC), and the Odessa Industrial Development Corporation (OIDC).

Funding

Table 14 summarizes the funding sources used for the JBS Parkway projects.

Table 14. JBS Parkway Projects Funding Sources.

Project	Funding Sources				Total Project Cost (Millions)
	TxDOT	City of Odessa	ODC	OIDC	
I-20 overpass	\$13,900,000	\$0	\$0	\$0	\$13,900,000
Business I-20 interchange	\$19,040,000	\$4,760,000	\$0	\$0	\$23,800,000
JBS Parkway south extension (I-20 to FM 3503)	\$0	\$566,667	\$566,667	\$566,667	\$1,700,000

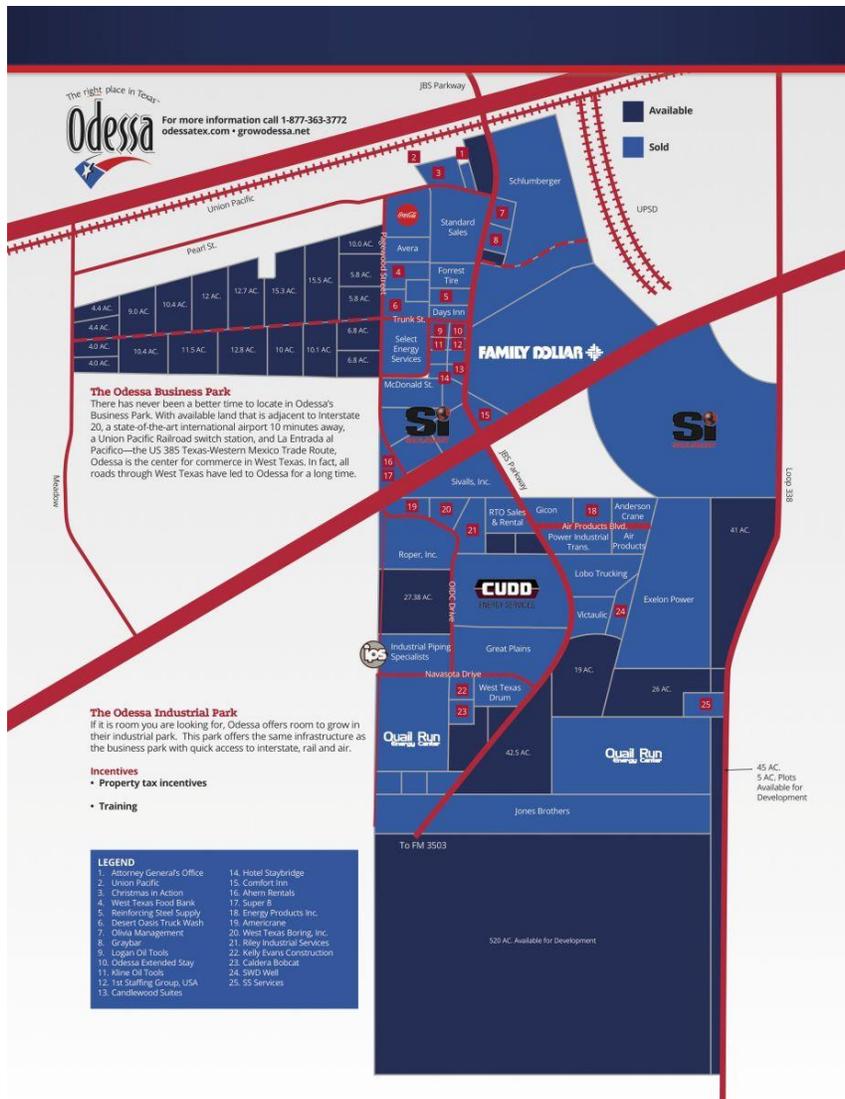
Note: Based on information provided to TTI researchers from TxDOT officials and the Odessa Chamber of Commerce in 2015.

ODC gives the City of Odessa flexibility to fund and finance new and expanded enterprises in the local communities. The Texas Development Corporation Act of 1979 allows ODC to use sales tax revenues that include land acquisition, purchase of machinery and equipment, construction costs, planning and professional services related to a project, and other expenses (77). ODC is funded through a quarter-percent sales and use tax (78).

OIDC (Grow Odessa) contributed funding for the south extension of the JBS Parkway expansion. OIDC is a non-profit organization made up of a group of local business owners aimed at promoting economic development in the Odessa and Permian Basin region. The revenue from selling land to incoming businesses is reinvested in buying additional land for future development and to help fund strategic infrastructure projects in the region.

Business Areas

The portion of the JBS Parkway south of I-20 bisects the Odessa Industrial Park. This park was established through a purchase of 120 acres of land by OIDC in 1993. Several businesses are located in the park, including CUDD Energy Services, Lobo Trucking, RTO Sales and Rental, Power Industrial Transmission, Americrane, West Texas Boring Inc., and Quail Run Energy Center. OIDC encourages new businesses to consider relocating to the park through tools such as job creation grants, property tax incentives, and training grants. From 2011 until June 2014, OIDC sold 268 acres of land for nearly \$9 million in both the business park and the industrial park to the north (79). Figure 10 shows a map of these parks.



Source: (80).

Figure 10. Map of Odessa Business and Industrial Parks (as of November 2015).

According to the Odessa Chamber of Commerce, the city has seen nearly \$500 million in new capital investments in the industrial park. Many of the businesses that have moved to the area have cited the expansion and improvement of the JBS Parkway as one reason that they chose to do so. Table 15 and Table 16 show the capital investment data for the business and industrial parks, respectively.

Table 15. Odessa Business Park Capital Investment and Employment.

Business	Capital Investment	Employment (Net New Jobs Created)
Saulsbury Industries	\$7,486,000	250
Staybridge Hotel	\$3,500,000	UC
Candlewood Suites	\$9,000,000	12
1st Staffing	\$900,000	5
Odessa Extended Stay	NA	UC
Days Inn	\$2,250,000	UC
Reinforcing Steel Supply	\$900,000	5
Forrest Tire	\$1,609,000	15
Standard Sales	\$16,000,000	110
Coca Cola	\$3,000,000	150
Christmas in Action	\$200,000	UC
Mike Forrest	\$300,000	UC
West Texas Food Bank	\$8,000,000	25
Select Energy	\$10,346,000	75
Logan Oil Tool	\$3,437,000	7
Kline Oil Tool	\$1,391,000	4
State of Texas Pardons & Paroles Office	\$488,000	19
Family Dollar	\$91,000,000	310
Graybar	\$1,741,000	15
Schlumberger	\$9,000,000	UC
Total	\$170,550,000	1002

Note: Based on data obtained from Odessa Chamber of Commerce, July 15, 2015.
 UC denotes the facility is under construction. NA denotes data not available.

Table 16. Odessa Industrial Park Capital Investment and Employment.

Business	Capital Investment (Millions)	Employment (Net New Jobs Created)
American Crane	\$1,190,000	45
West Texas Boring	\$535,000	50
Riley Industrial Services	\$170,000	5
RTO Sales and Service	\$860,000	5
Roper, Inc.	\$300,000	10
Industrial Piping Services	\$2,600,000	22
CUDD Energy Services	\$31,000,000	30
Kelly Evans Construction	\$120,000	1
Anderson Machinery	\$280,000	15
LCM Industries, LLC	\$540,000	25
Quail Run Energy	\$200,000,000	15
Victaulic	\$10,000,000	12
Lobo Trucking	\$5,000,000	18
Power Industrial Transmission	\$340,000	UC
Air Products	\$33,000,000	10
Gicon	\$6,000,000	12
Energy Products, Inc.	\$5,000,000	10
S&S Services	\$100,000	4
Sun State Electric	\$850,000	190
Total	\$297,885,000	479

Note: Based on data obtained from Odessa Chamber of Commerce, July 15, 2015. UC denotes facility is under construction.

Figure 11 through Figure 15 illustrate investment that has located along the JBS Parkway after the construction of the new Business I-20 overpass. Again, while it is unclear whether that investment was directly due to these JBS Parkway improvement projects, business leaders in the area note the Business I-20 overpass as one key factor influencing the decision to locate their facility in the project vicinity.



Figure 11. New Hotel Development along JBS Parkway between Business I-20 and I-20.



Figure 12. New Industrial Development Activity along JBS Parkway between Business I-20 and I-20.



Figure 13. JBS Parkway at Business I-20 (during Construction).



Figure 14. JBS Parkway Bridge over Business I-20 and Union Pacific Railroad (during Construction).



Figure 15. JBS Parkway South of I-20.

US 190 Bypass in Copperas Cove

The US 190 Copperas Cove Bypass project helps illustrate how innovative financing tools are used to deliver a project strongly desired by local community partners. In the late 1990s, elected leaders called for a faster route around the fast-growing Central Texas city of Copperas Cove.

Project Location and Description

As shown in Figure 16 and Figure 17, this 5.2-mile roadway routed traffic around Copperas Cove from east of the Five Hills shopping center to just west of FM 2657 near the Lampasas County line. Construction for this facility began in 2011, and the facility was opened to the public in early 2015 (81).

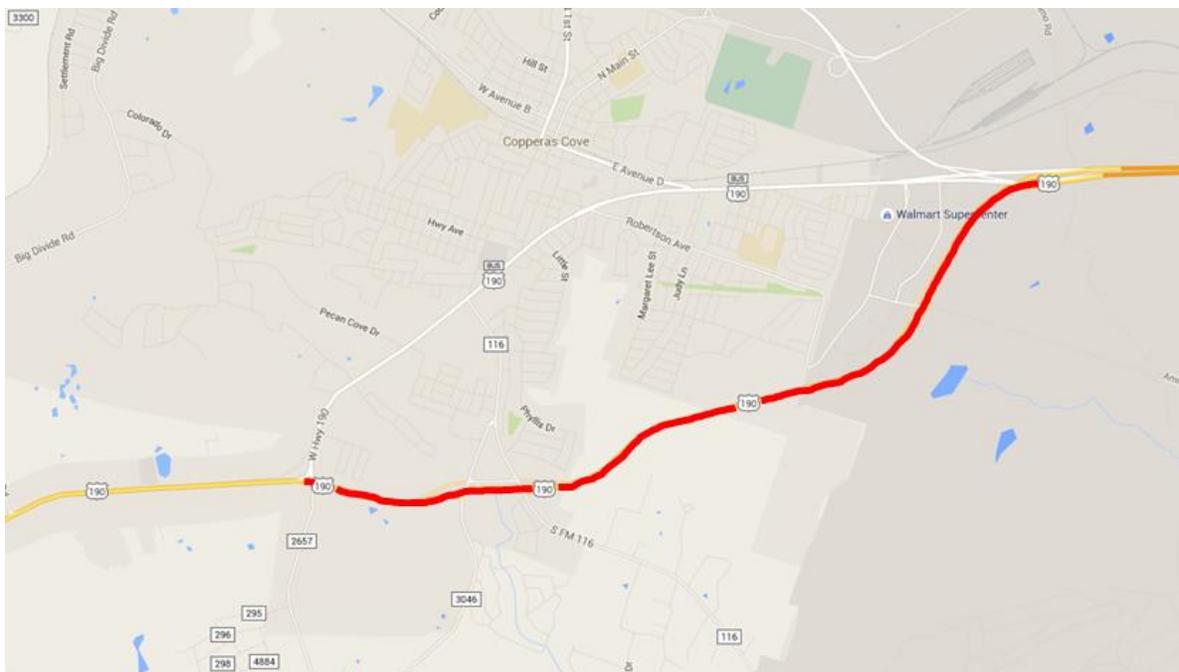


Figure 16. US 190 Copperas Cove Bypass Facility Map.



Figure 17. US 190 Bypass in Copperas Cove.

Partners

Many local leaders considered this project significant in part because of its role as a key connection for residents in Lampasas County to one of the region’s largest employers, Fort Hood, to the east. This project was also significant in the way several entities worked together to identify and contribute significant local matching resources. The following entities were involved in the development of this project, as identified in the original 2010 Advance Funding Agreement between TxDOT and the City of Copperas Cove (82):

- The TxDOT Waco District.
- The City of Copperas Cove.
- The Copperas Cove Economic Development Corporation.
- Fort Hood.

Funding

This agreement is innovative in part because it represents an emerging use of pass-through financing in which a local government entity pays for the initial construction and is subsequently reimbursed by the state. This agreement called for the City of Copperas Cove to pay for the project construction costs upfront. The state then reimbursed the city according to the terms explained in Table 17. (The TxDOT Category 10 earmark was taken off the top of the awarded construction cost at the time of letting.)

As is the case with most pass-through agreements, however, the process by which the state reimbursed the City of Copperas Cove is complicated. In this agreement, the state reimbursed the final actual construction cost less the actual final utility relocation cost in the construction bid plus the actual final construction cost of the bid.

Table 17. US 190 Advance Funding Agreement Project Costs and Funding Commitments.

Description	Estimated Construction Cost	Maximum Funds Available	Maximum Federal Participation	Maximum State Participation	Maximum Local Participation
Construction cost and environmental remediation (landfill relocation)	\$45,700,000	\$49,618,000	\$33,854,400	\$8,463,600	\$7,300,000
Utility relocation	\$700,000	\$1,000,000	\$0	\$0	\$700,000
Category 10 federal earmark	(\$1,000,000)	\$1,000,000	\$1,000,000	\$0	\$0
Total	\$45,400,000	\$51,318,000	\$34,854,400	\$8,463,600	\$8,000,000

SH Spur No. 601 in El Paso

The SH Spur No. 601 project is another example of a close collaboration between state, local, and private entities and represents one of the earliest efforts in the state to use alternative financing options for quicker project delivery.

Project Location and Description

This project is a six-lane, 7.5-mile freeway spur route in El Paso County that extends from US 54 in El Paso eastward to Loop 375 in the Fort Bliss Military Reservation. The project is also significant because it represents Texas’s first-ever private-sector pass-through financing agreement to accelerate transportation improvements. Figure 18 illustrates the project limits.



Source: (83).

Figure 18. SH Spur No. 601 Facility Map.

The project was constructed in segments:

- A-1 relocated Global Reach Drive and Walter Jones Boulevard in order to provide access to a new gate at Fort Bliss.
- A-2 extends east of the East Biggs Access Control Point and includes a 3,550-foot-long backage road leading to development being coordinated by Fort Bliss.
- A-3 extends from the overpass bridge at the intersection of Airport Road and Sergeant Major Boulevard to the east abutment of the Global Reach overpass.
- Segment B includes main lanes west of the intersection of Airport Road and Sergeant Major Boulevard, which consist primarily of elevated freeway on twin structures.

Partners

Project financing was arranged through the local RMA, the Camino Real Regional Mobility Authority (CRRMA). CRRMA was responsible for \$233.5 million in bonds plus a \$16 million original issue premium. Through a pass-through financing agreement executed in 2007, TxDOT reimburses CRRMA in semi-annual payments based on facility use. TxDOT also contributed \$55 million in direct funding for this project. While J.D. Abrams was responsible for providing some upfront project financing as part of this pass-through agreement, TxDOT owns, operates, and maintains the project upon completion and final acceptance.

Funding

Table 18 summarizes the sources of funds for this project.

Table 18. SH Spur No. 601 Project Sources of Funds.

Source	Amount (Millions)
TxDOT	\$55.0
Tax-exempt bonds	\$233.5
CRRMA pass-through payments	\$7.9
Original issue premium	\$16.0
Interest earnings	\$8.9
Total	\$321.3

Source: (84).

This financing arrangement is significant in part because it was one of the first pass-through agreements executed in Texas. An independent analysis of this financing arrangement found this unique arrangement accelerated the project start by at least a decade (84). Furthermore, the pass-through agreement approach allowed CRRMA to issue bonds at competitive bond rates despite its relatively short history of issuing debt.

Loop 49 in Tyler

The Loop 49 project is noteworthy in part because it is one of the state's largest tolled projects located outside one of the four major Texas Triangle metropolitan areas. When fully constructed, Loop 49 will be a tolled, four-lane divided facility developed by the Northeast Texas Regional Mobility Authority (NET RMA) and TxDOT. This facility will connect the cities of Tyler, Longview, and Marshall in addition to several smaller East Texas communities. As of June 2016, five segments are open to vehicular traffic. Segment 4 is in the final stage of project design and is expected to reach completion by spring 2018 (85).

Project Location and Description

As shown in Table 19 and Figure 19, TxDOT is responsible for Segments 1, 2, 3A, 4, and 5, and NET RMA is responsible for Segments 3B, 6, 6A, 7, 8, and 8A.

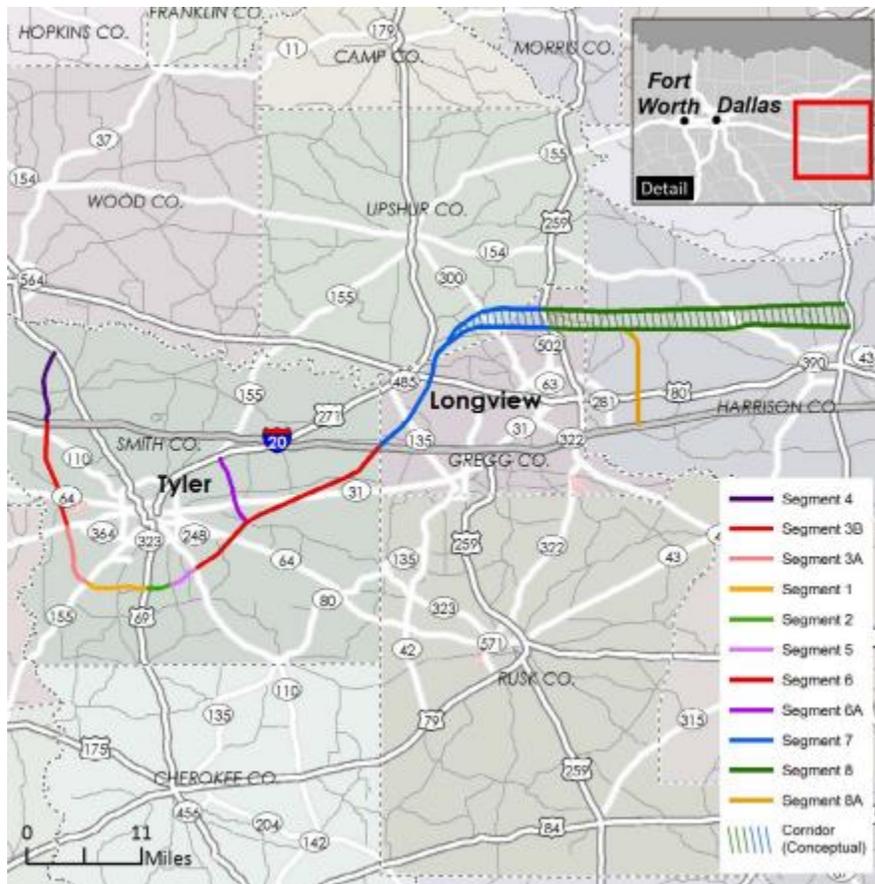
Table 19. Tyler Toll 49 Segment Summary (as of June 2016).

Segment	From	To	Length (Miles)	Opening Date	Responsible Entity	Status
1	SH 155	US 69	5.0	August 2006	TxDOT	Complete
2	US 69	FM 756 (Paluxy Road)	2.0	January 2008	TxDOT	Complete
3A	SH 155	SH 31	6.6	November 2012	TxDOT	Complete
3B	SH 31	I-20	10.2	March 2013	NET RMA	Complete
4	<i>I-20</i>	<i>US 69</i>	<i>6.7</i>	<i>Spring 2018*</i>	<i>TxDOT</i>	<i>Final Design</i>
5	FM 756 (Paluxy Road)	SH 110	2.5	June 2012	TxDOT	Complete
6, 6A, 7, 8, 8A	<i>SH 110</i>	<i>US 59</i>	<i>TBD</i>	<i>Not yet scheduled</i>	<i>NET RMA</i>	<i>Conceptual</i>

*Estimated full project completion.

Note: Unfinished segments are shown in italics. TBD denotes an unknown value.

Source: (85).



Source: (85).

Figure 19. Loop 49 Facility Map.

Funding

This project was effective in part because NET RMA was able to use several financing methods and a combination of federal, state, and local funds. As shown in Table 20, a combination of federal funds as well as funds from TxDOT, the City of Tyler, and Smith County were used to deliver this project.

Table 20. Loop 49 Project Funding Sources.

Segment	Funding Sources					Total Cost (Millions)
	TxDOT	City of Tyler	Smith County	Federal ARRA Funds	Federal Grants	
1	\$20,700,000	\$1,000,000	\$500,000	\$0	\$0	\$22,300,000
2	\$14,100,000	\$450,000	\$450,000	\$0	\$0	\$15,000,000
3A	\$0	\$500,000	\$500,000	\$38,000,000	\$9,000,000	\$48,000,000
3B	\$90,000,000	\$0	\$0	\$0	\$0	\$90,000,000
4	\$34,200,000	\$0	\$0	\$0	\$0	\$34,200,000

Note: ARRA is the American Recovery and Reinvestment Act of 2009.

Source: (85).

The use of these innovative financing tools from a variety of different federal, state, and local funding sources has meant quicker delivery of the transportation project. For this project, one aspect that was especially useful was the ability to impose tolls on the facility, resulting in quicker project delivery. TxDOT's Tyler District estimated that without toll revenues, full project buildout would not have been completed until 2033.

Study Findings and Future Research Needs

Findings

Four findings emerged as part of this research.

Collaborative Funding

A review of the scholarly literature revealed a clear trend toward more collaborative funding approaches, both in Texas and elsewhere around the United States.

Increasingly, governments at all levels must work together to fund transportation projects and share the project costs. Researchers found a general trend away from federal and state government funding in nearly all of the transportation projects. In part due to declining funds at the federal and state levels, projects that are funded nearly exclusively by federal and state sources are decreasing, while projects funded by federal, state, local, and private sources are increasing.

Such a partnership was seen with the JBS Parkway in Odessa. This example illustrates a combined effort of its economic development corporation, private business owners, and TxDOT. Additionally, successfully applying an all-of-the-above approach to seeking out project funding and financing strategies appears to be the key factor in getting a project constructed.

Largely validating what was found during the literature review, many elected officials researchers met with said the days of reliable transportation funding sources are gone. For example, even with new funding coming in via two recently passed statewide bond initiatives, the TxDOT Odessa District and several West Texas municipalities said they continue to struggle for transportation funding. Newly authorized tools by TxDOT and the state legislature have helped in that regard.

Legislation for Alternative Financing

The Texas Legislature, especially over the past decade, has been more willing to grant regional and local governments greater flexibility to use alternative project financing methods to deliver transportation infrastructure projects.

In a review of state legislation, researchers also found a trend toward approving legislation that authorizes local governments to consider additional sources for transportation revenue to fund projects in their regions. Lawmakers have approved legislation allowing municipalities, counties, special-purpose districts, and other local entities flexibility and control to levy funds to pay for their transportation projects. Most notably, the creation of RMAs via Senate Bill 342 in 2001 has given small urban and rural communities greater flexibility to use tolling and other alternative project financing tools to fund and deliver transportation projects in their regions.

More Use of Alternative Financing and Minimal Use of Taxes and Fees

While most local governments appear to be taking advantage of alternative finance methods, few local governments have increased taxes or fees that bring net new revenue into transportation.

Researchers identified a growing trend toward the use of alternative financing methods used by local governments. This increased reliance is due in part to changes in state legislation but also driven in part by increasing need at the local level. Transportation leaders in small urban and rural communities are increasingly working with TxDOT and their local economic development agency counterparts to fund transportation projects.

Employee Access

Interviews with employers that have chosen to locate near new infrastructure projects most often revealed employee access as a key driver for their decision to relocate near the facility.

Among nearly all the firms interviewed, easy access for its employees seemed to be one of the most significant factors for relocation. This appeared to be especially true for those who chose to relocate their business along the JBS Parkway. While several firms interviewed mentioned they considered looking at sites in Midland, they ultimately decided on the JBS Parkway location because it was in close proximity to Odessa for its employees.

Future Research

There remains a need for further research in this area:

- The case study interviews and workshops showed clear demand by local agencies, especially local governments unfamiliar with many of the nontraditional financing methods, for analytical tools to help identify local funding options they can leverage. Municipalities in rural areas seem to be especially in need of these resources.
- Adding additional case studies could greatly enhance this research.

Acknowledgments

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