North Central Texas Council of Governments

Integrating Transportation and Stormwater Infrastructure

Conservation and Preservation Incentives for Flood-Prone and Environmentally Sensitive Areas

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Conservation and Preservation Incentives for Flood-Prone and Environmentally Sensitive Areas Memo

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1 Background

Flood-prone lands and environmentally sensitive areas can be safeguarded through a variety of approaches that incentivize conservation. Across the integrating Transportation and Stormwater Infrastructure study area and throughout Texas, local governments have implemented a mix of policies and programs, ranging from penalties like stormwater utility fees to incentives such as green infrastructure credits. Broader efforts, including land buyouts and open space preservation programs, also contribute to protecting these areas.

However, these initiatives are often fragmented, due to the arbitrary boundary of jurisdictions. Each city or county may set different policies on how to best remedy poor water quality or flooding, and those policies may have different penalties and level of enforcement depending on the city or county. Many of these policies are outdated or face political and legal challenges. Another setback is these efforts are usually piecemealed together. All this can work against a comprehensive, holistic conservation approach to flood mitigation.

This fragmentation, particularly among local jurisdictions, poses a significant challenge to effective flood management and control. While state and federal agencies offer guidance and support, their efforts are largely voluntary. FEMA's Community Rating System (CRS), for example, rewards communities with points that adopt floodplain management practices that exceed the minimum requirements of the National Flood Insurance Program (NFIP). These points are translated into CRS classifications, with a rating system based on a 1 to 10 scale, where flood insurance premium reductions increase with rating. The lower the rating, the higher the discount. Buyout programs can focus conservation without not focusing on flood-prone areas. For example, the Texas Farm and Ranch Lands Conservation Program, a conservation program with the Texas Parks and Wildlife Department (TPWD). It funds easements to prevent land fragmentation and development. The program prioritizes individual landowners with high value natural resources, including water, fish, wildlife and agricultural production. This program prioritizes lands at risk of development (Texas Parks and Wildlife, 2025). These programs are mostly voluntary, relying heavily on local adoption.

Table 1-1. Breakdown of the different incentive types by category.

Incentive Type Categorization

Category	Example
Regulatory	Zoning restrictions, subdivision ordinances, floodplain prohibitions
Financial	Stormwater fees, tax abatements, conservation tax incentives, stormwater fee reductions
Voluntary Conservation	Land donations, conservation or agricultural easements
Infrastructure-based	Stormwater credits, green infrastructure credits
Programmatic	Buyout programs, open space initiatives, TPWD grant program
Education / Collaboration / Enforcement	Pre-development meetings, public/private partnerships

2 Local Policy Inventory Methodology

This inventory of local conservation and floodplain management efforts was developed through a combination of desktop research and review of municipal planning documents, as well as email correspondence and meetings with staff of relevant agencies in the Dallas-Fort Worth region or greater Texas. Information was sourced from publicly available resources such as city ordinances, comprehensive plans, stormwater program websites, and other articles highlighting local initiatives. This approach allowed staff to identify a range of strategies across jurisdictions, while revealing gaps in enforcement, funding, and capacity.

The findings are organized in a summary table that categorizes each jurisdictional initiative by incentive type and indicates whether the approaches are voluntary or regulatory, financial or not, infrastructure or programmatic focused.

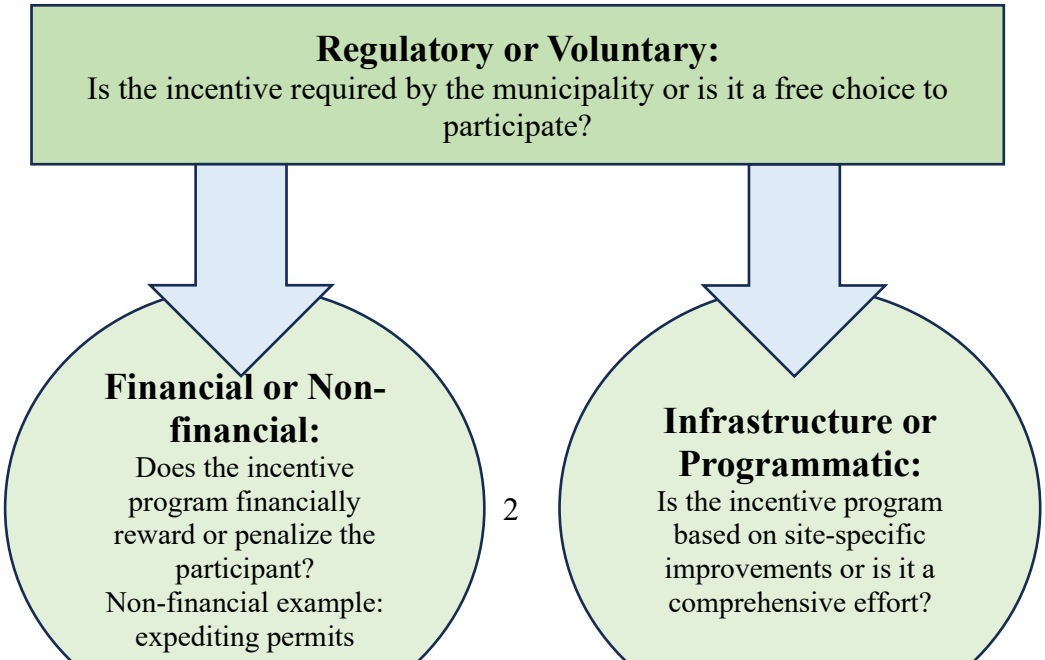


Table 2-1. Examples of Incentive Programs Organized By Type

Conservation Incentive Example Table

Title	Entity	Regulatory/ Voluntary	Financial	Link
Conservation Category	Infrastructure			
Stormwater Utility Fee Credit Program	Lewisville	Mixed	Y	https://www.cityoflewisville.com/city-hall/city-departments/public-works/
Tree Ordinance Spreadsheet	San Antonio	R	Y	https://docsonline.sanantonio.gov/FileUploads/dsd/TreeOrdinanceSpreadsheet.pdf
Green Infrastructure Management	Austin	V	Y	https://services.austintexas.gov/edims/document.cfm?id=458812
Stormwater Fee Reduction	San Antonio	V	Y	https://www.sanantonio.gov/PublicWorks/Projects/Storm-Water-Fee
Tree Preservation Ordinance	Anna	R	Y	https://www.annatexas.gov/DocumentCenter/View/6628/Tree-Preservation-Ordinance---8-8-23-adoption
Conservation Category	Infrastructure/ Program			
Smart Growth	Flower Mound	Mixed	Y	https://library.municode.com/tx/flower_mound/codes/code_of_ordinances?nodeId=SPBLADERE_CH98ZO_ARTIISMPR_DIV3SMAN
Floodplain Regulations	Austin	R	Y	https://www.austintexas.gov/page/floodplain-regulations
City Wide Drainage Master Plan Road Map	Grand Prairie	R	Y	https://www.gptx.org/Departments/Floodplain/City-Wide-Drainage-Master-Plans
Tax Abatement—GSI (Ordinance 2024-624)	Houston	R	Y	https://www.houstontx.gov/ecodev/abatements/Ordinance-2024-624.pdf
Ordinance 08.44	Rockwall	R	Y	https://www.rockwall.com/documents/Engineering/Ord.%2008-44%20-%20Flood%20Damage%20Prevention%20Ordinance.pdf
Conservation Category	Program			
Disaster Buyout Program	FEMA	V	Y	https://www.congress.gov/crs_external_products/IN/PDF/IN11911/IN11911.2.pdf
Flood Buyout Program	Austin	V	Y	https://services.austintexas.gov/edims/document.cfm?id=271149
Collin County Parks and Open Space Strategic Plan	Collin County	V	Y	https://www.collincountytx.gov/docs/default-source/boards/park-foundation-advisory-board/documents/executive-summary.pdf?sfvrsn=7e9c9dcf_2

Title	Entity	Regulatory/ Voluntary	Financial	Link
Collin County Floodplain Regulations	Collin County	V	Y	https://www.collincountytx.gov/docs/default-source/public-works/documents/collincountyfloodplainregulations.pdf?sfvrsn=5715d43b_3
Dallas County Open Space	Dallas County	V	Y	https://www.dallascounty.org/Assets/uploads/docs/plandev/Dallas%20County%20Open%20Space%20Plan_reduced_FINAL_1.pdf
Open Space Plan	Flower Mound	Mixed	Y	https://flowermound.gov/DocumentCenter/View/755/60-Open-Space-Plan?bidId=
Stormwater Master Plan	Fort Worth	R	Y	https://www.fortworthtexas.gov/files/assets/public/v/1/tpw/documents/2018-sw-master-plan_final.pdf
Riparian Area Initiative	Fort Worth	V	Y	https://www.fortworthtexas.gov/departments/tpw/stormwater/riparian-area-initiative
Voluntary Buffer Area	Frisco	R	N	https://ecode360.com/45146453
Development Code Chapter 7.4: Environmentally Sensitive Areas	Denton	R	N	https://library.municode.com/tx/denton/codes/development_code?nodeId=CITY_DENTONDECO_SUBCHAPTER_7DEST_7.4ENSEARES_7.4.3ENSEARCRMA
Rockwall County Open Space Master Plan	Rockwall County	V	Y	https://www.rockwallosa.org/doc/Rockwall-County-Open-Space-Master-Plan-20151229_reduced.pdf.
Edwards Aquifer Protection	San Antonio	Mixed	Y	https://www.sanantonio.gov/ParksAndRec/Parks-Facilities/All-Parks-Facilities/Gardens-Natural-Areas/Edwards-Aquifer
Upper San Antonio River Watershed Protection Plan	San Antonio River Authority	V	Y	https://www.sariverauthority.org/wp-content/uploads/2025/01/Upper-San-Antonio-WPP.pdf
Travis County Conservation Easement	Travis County	V	Y	https://www.traviscountytx.gov/tnr/nr/conservation-easement
General Plan 2018: Chapter: Parks and Open Space	Weatherford	Mixed	Y	https://weatherfordtx.gov/DocumentCenter/View/13736/Chapter-7
Ordinance: Title 8 Flood Damage Prevention	Weatherford	R	Y	https://library.municode.com/tx/weatherford/codes/code_of_ordinances?nodeId=COOR_TITXIIIFLDAPR_CH5PRFLHARE
Development Rules and Regulations	Wise County	R	Y	https://www.co.wise.tx.us/DocumentCenter/View/409/Development-Rules-and-Regulations-PDF

2.1 Financial

Financial devices are the common tool for governments to incentivize their initiatives. They play a key role in encouraging conservation and were found across almost every type of incentive category because of their broad applicability. Financial incentives can reward desired behaviors and penalize undesirable behaviors. In contrast, other incentives, like expediting permits or reduction of an open space requirement, aren't as attractive. Financial efforts are usually placed at an individual level, like tax abatements or stormwater fee discounts. Due to this individualized focus, the effectiveness of financial incentives varies by the benefit or cost of the incentive, personal willingness and awareness of conservation programs.

The City of Lewisville offers green infrastructure discounts for stormwater fees (City of Lewisville, 2025). Green infrastructure discounts could be dual serving; for the developer it may decrease permitting costs, as for the property owner it can function as a stormwater fee discount. San Antonio provides stormwater credits and fee reductions for low-impact development (LID) best management practices, offering up to 30% in fee reductions (City of San Antonio, 2025). These financial efforts are multifaceted, pushing the developer to create a built environment that supports natural systems. The incentives and along with conservation stewardship can be readily moved onto the property owner through stormwater fee discounts. Financial incentives are a flexible and impactful tool, but their success relies on policy guidance and strong outreach to ensure landowners and developers are well-informed.

2.2 Regulatory

These types of incentives are established through legislative or planning initiatives, which can mean that the municipality has established rules with the ability to enforce them. Some cities have strict floodplain development bans. This demonstrates a proactive approach to land use regulations that prevents any change to the flood-prone environment. Some communities, like the Town of Ponder, enact subdivision development standards to encourage green space dedication for new development. The Town of Ponder ultimately acquired 100 acres of green space as a part of this incentive (Town of Ponder, 2025). There are more specific ordinances where cities acknowledge the importance of natural resources like trees and other vegetation. A tree in an environmentally sensitive area, a bigger tree or a tree that is native may have more ecological value, and cost more to replace. San Antonio's tree ordinance stands out. It mandates the preservation of trees in flood-prone and environmentally sensitive areas (City of San Antonio). While these policies are established, they may not go far enough to deter all developments in flood-prone or environmentally sensitive areas or to have a meaningful impact on the larger system. Tree and subdivision ordinances, and others like them, can also be bypassed by developers that are willing to pay the offset cost.

2.3 Voluntary

Voluntary programs are initiatives that encourage participation to fulfill conservation efforts. These programs may offer financial incentives, typically seen as a discount or a tax break. For some landowners, donating a conservation easement is a meaningful way to protect the land they value. This decision can be significant as it involves surrendering their property rights. While the property is still accessible to the owner, it cannot be developed or used, except for preservation. Tax incentives can help offset this loss and make participation more attractive. The city of Frisco

uses a buffer area method that is a floodplain boundary that surrounds creeks and tributaries (City of Frisco, 2021). Developers may choose to develop outside the buffer zones and in return receive a density bonus, expedite permits or count toward their open space requirements. Ordinances like this promote smart growth by guiding development outside of sensitive areas and encouraging more sustainable land use patterns.

Many cities in the study area use tax benefits and federal programs like the Conservation Reserve Enhancement Program (CREP) to support conservation. CREP is a voluntary partnership program administered by the United States Department of Agriculture (USDA) Farm Service Agency, which provides annual payments and cost-share assistance to landowners who remove environmentally sensitive land from agricultural production and implement conservation practices (USDA, 2025). Another voluntary incentive program is the FEMA Buyout Program, which offers a voluntary option for homeowners in flood-prone areas to sell their property to the local government. Any city is open to participate in the program and FEMA typically funds some of the acquisition cost. These buyouts reduce flood risk by restoring the developed property to open space, wetlands or recreational areas (FEMA, 2025). The success of voluntary conservation programs depends on strong partnerships among municipalities, federal agencies, nonprofit organizations and individuals.

2.4 Infrastructure

Infrastructure-based incentives encourage conservation and sustainable development by offering credits or benefits tied to physical improvements on a property that reduce environmental impacts. Most notably, stormwater fees work in a broad array of incentive devices such as lower fees, expedited permitting, or other regulatory strategies. These incentives support environmental goals and are tied to stormwater management, innovative infrastructure or low-impact development. The City of Austin has a Green Infrastructure Management program that improves watershed health and urban ecosystem by protecting environmentally sensitive areas through coordinated efforts across multiple city departments (City of Austin, 2025). Another comprehensive example is Flower Mound's SMARTGrowth Program, which integrates infrastructure planning with environmental protection to ensure development aligns with both community character and environmental goals (Town of Flower Mound, 2002). These strategies offer developers flexible compliance options while supporting local conservation goals. Another example is the City of Dallas's effort to restore the Trinity River ecosystem through nature-based solutions (City of Dallas, 2024). A nature-based approach can be cost-effective in the long run, requiring less routine maintenance and alleviate stress on built systems. Infrastructure-based incentives can be a simple but powerful tool for aligning development with conservation.

2.5 Programmatic

Programmatic incentives are structured initiatives, often led by government agencies with nonprofit organizations, that support conservation through organized funding, planning or land management efforts. Open space programs are gaining traction in several Texas cities and counties. Fort Worth's Open Space Conservation Program and Good-Natured Greenspace Initiative programs aim to preserve thousands of acres for flood storage and recreation use. The Open Space Conservation Program was developed in partnership with the Trust for Public Land. This program uses data-driven mapping and community input to prioritize high-quality natural areas for conservation (City of Fort Worth, 2025). The Good-Natured Greenspace Initiative

seeks to preserve green space near watersheds through public-private partnership investments (City of Fort Worth, 2025). The City of Austin uses the Watershed Protection Department to acquire land and establish conservation easements to protect sensitive areas and support the long-term watershed (City of Austin, 2025). These initiatives place a higher value in undeveloped land. Often having to piece together multiple adjacent parcels to create continuous, uninterrupted tracts. Larger parcels may be given a higher priority due to their potential to support more cohesive ecosystems and simplify long-term land management. While cities are more urbanized, they select lands that can be recreational like parks and greenways. Counties have limited zoning authority; they use their open space plans to create a county-wide conservation effort by acquiring natural areas for recreation and environmental protection. The plans suggest partnering with a non-profit and funding to be sourced from both donations and federal grants. Programmatic incentives can be especially effective for large-scale conservation goals, such as flood mitigation, habitat connectivity, and water quality improvement.

2.6 Education, Coordination and Enforcement Challenges

Monitoring and enforcement remain inconsistent across jurisdictions, often due to limited local capacity. For example, in the Town of Ponder, enforcement of its Stormwater Protection Program depends on code enforcement staff. This highlights how limited staff and resources can affect the consistency of implementation. Many municipalities impose daily fines for ordinance violations to ensure compliance; however, the impact of these fines on compliance is uncertain. In contrast, the City of Grand Prairie has faced political pressures that can undermined the consistent enforcement of floodplain policies. Where the value of environmental resilience is perceived to conflict with economic development goals. This demonstrates how governance dynamics influences policy effectiveness (City of Grand Prairie, 2025).

Another key challenge across all these examples is understanding how these programs work. Education and local guidance are essential to the success of incentive initiatives. Only through strong public-private partnerships and informed landowners can these programs operate effectively and reach their full potential. Successful environmental enforcement depends not only on clear regulations but also on adequate staffing, interdepartmental coordination, and public understanding. Without these elements, long-term conservation goals may be at risk.

3 Conclusion

Local governments across Texas are making meaningful strides in conserving flood-prone lands and environmentally sensitive areas through a range of policies, programs, and incentives. These efforts reflect a growing commitment to environmental resilience. However, most initiatives remain voluntary, are underutilized, or lack enforcement. While national and state frameworks like FEMA's Community Rating System, the Texas General Land Office's standards, and TPWD programs offer valuable guidance, they rely heavily on local capacity and political will. Fragmented jurisdictional authority and the absence of enforcement further complicated implementation, as environmental regulations are typically enforced through administrative processes. Bridging the gap between policy and practice will require stronger incentives, clearer authority, and sustained interest.

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