

# Sonoran Desert Green Infrastructure Resource Library



**American Rivers**  
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**A Playbook for Transportation  
Projects in Pima County  
Communities**





Pima City Water Reclamation Campus  
Photo: gmvargas.com



# **PART 2**

## **Funding Green Infrastructure as Part of Transportation Projects**

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Assuring adequate funding for GI in transportation projects has unique challenges and opportunities. Opportunities may arise for using transportation-specific funding sources to provide GI benefits that other municipal funding sources cannot. Alternatively, transportation projects may provide an opportunity to leverage non-transportation oriented funding in order to optimize public investment in GI benefits. In general, and regardless of source, funding goes further when used for multi-benefit purposes and using an integrated approach.

# Bonding and Debt Financing Green Infrastructure

The funds used for transportation projects can complete the GI aspects, or additional funds can be sought to enhance and retrofit GI features. In addition to the funds that may flow to GI from private development projects and from municipal/county Capital Improvement Projects, below are some transportation funding sources that allow and encourage GI uses.

Transportation agencies and local governments may opt to fund roadway and other transit projects through debt financing, particularly by issuing municipal bonds.<sup>32</sup> Debt financing should be thought of as an important option for creating sufficient capital for investments in up-to-date transportation networks, particularly because they create sufficient one-time resources for investments in major projects or multiple projects included in a CIP. In addition, financing spreads the debt burden across time, which allows the project(s) to be paid for by the people who benefit across the lifetime of the constructed infrastructure. Debt financing requires a dedicated, sustainable source of revenue for repayment of the bond principal plus interest. Often a tax or rate increase will provide that source of income. Arizona law requires that voters approve general obligation, highway user revenue and utility revenue bonds which creates both an obligation for transportation agencies to obtain voter approval and an opportunity to engage the public in a way that is consistent with a CSS approach.

There are at least three approaches to funding GI through bond financing. First, transportation related bond issuances may be an option for future city or Pima County roadway projects. As the bond package is designed and drafted it is important to include the capital costs of any associated GI components of the bond funded projects and to specifically allocate bond revenues to GI features. A second approach would be to include transit corridor GI projects as eligible features within a non-transportation bond, such as a park, flood control, or even school bonds. GI practices are appropriate for managing runoff from constructed features of many capital improvements. Finally,

Mural by El Ojito Historic Spring, Tucson.  
Photo: American Rivers



Tucson-area cities and towns or Pima County may consider a bond issuance that is specifically intended to fund GI projects, either as a “stand alone” effort or perhaps as part of a broader investment package intended to fund climate resiliency projects.<sup>33</sup>

There can be challenges associated with incurring bond debt to finance GI projects. These projects are, by their nature, distributed across many locations in contrast to more traditional, centralized assets. They may even be constructed on private property with the intention of providing a public benefit. Recent changes to accounting rules have reduced some of the obstacles, making it easier for public agencies to treat distributed infrastructure projects (even conservation programs) as assets. These changes, although arcane for most transportation planners, make it easier to contemplate bond financing for GI.<sup>34</sup>

## **Tucson Parks and Connections Bond:**

Proposition 407, approved by Tucson voters in 2018, provided \$225 million in general obligation bond funds to support investments in city parks, park amenities and connections projects (pedestrian pathways, bicycle pathways, pedestrian, and bicycle safety). While there are significant opportunities to incorporate GI features into parks and playgrounds, the corridor connections projects also create opportunities for integrating GI into transportation-related infrastructure.

# Paying for green infrastructure with transportation funding

There may be many instances in which implementing GI is an appropriate practice for achieving transportation objectives and is eligible for funding through traditional transportation-related and funding sources.

## **Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary Grants**

The BUILD Grant program was launched in 2018 as a federal transportation infrastructure investment program. Formerly known as TIGER Grants, BUILD grants are intended to fund large infrastructure projects and can be used for planning initiatives. BUILD Grants include a designated allocation for rural projects in an effort to equitably distribute the funding between rural and urban areas. Although BUILD Grants are highly competitive, the criteria for developing a successful project include environmental protection, innovation, and quality of life improvements. GI design elements could factor into a successful BUILD grant application.

## **FAST Act Transportation Alternatives/Surface Transportation Block Grant Program (STBG)**

MPOs, such as PAG, are required to consider several planning factors in the development of transportation plans and programs. The metropolitan planning process includes the following planning factors that could be applied to GI-based projects or projects which include GI:

- improving transportation system resiliency and reliability [23 U.S.C. 134(h)(1)(I)]
- reducing (or mitigating) the stormwater impacts of surface transportation [23 U.S.C. 134(h)(1)(I)]
- enhancing travel and tourism [23 U.S.C. 134(h)(1)(J)]
- reducing the vulnerability of existing transportation infrastructure to natural disasters [23 U.S.C. 134(i)(2)(G)]

The Transportation Alternatives (TA) set-aside funds from the STBG program encompass a variety of smaller-scale transportation projects, community improvements and environmental mitigation related to stormwater, and habitat connectivity. Tribal governments, local governments, transit agencies, school districts, and nonprofit organizations responsible for local transportation safety programs are eligible to apply for this competitive grant program. PAG uses its TIP for applications, and all projects included in the TIP must be drawn from the RMAP, described further in the performance measures section above. The TIP is a five-year schedule and budget of anticipated transportation improvements within eastern Pima County. The TIP is typically updated biennially through a multi-step process in association with PAG's member jurisdictions and other implementing agencies. The goal of the process is to develop a TIP that makes optimum use of available federal, state and local funds and resources to serve the region's multi-modal transportation needs. The RTA Board set policy that any funds available through the TIP process be prioritized to the delivery of RTA named projects and promises made to the voters.

## **FHWA Congestion Mitigation and Air Quality Improvement Program (CMAQ)**

The CMAQ program provides a funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas), as well as former nonattainment areas that are now in compliance (maintenance areas). States with no nonattainment or maintenance areas may use their CMAQ funds for any CMAQ- or STBG-eligible project. Under the FAST Act, a State with PM2.5 (fine particulate matter) nonattainment or maintenance areas must use a portion of its funds to address PM2.5 emissions in such areas. Pima County is not in nonattainment for PM2.5.

List of eligible CMAQ projects: [https://www.fhwa.dot.gov/Environment/air\\_quality/cmaq/reference/cmaq\\_essentials/](https://www.fhwa.dot.gov/Environment/air_quality/cmaq/reference/cmaq_essentials/)

EPA link regarding CMAQ regarding pedestrian and bicycle projects that have GI elements incorporated: <https://www.epa.gov/green-infrastructure/green-infrastructure-funding-opportunities>

In Pima County, the Tucson Air Planning Area (TAPA) is under a second 10-year Carbon Monoxide (CO) Limited Maintenance Plan which concludes at the end of 2020. The region is designated attainment status for the ozone National Ambient Air Quality Standard (NAAQS). In Pima County, there are two designated PM10 nonattainment areas in Rillito and Ajo.

The Pima County region is not currently a recipient of CMAQ funds as outlined in statewide transportation funding distribution. Any receipt of CMAQ funds would impact other fund sources available to the region and the region would likely lose proportionate funding from other less restrictive funds like STBG which have greater flexibility and simpler reporting requirements. These funds may be attractive if a reliable funding source for focused air mitigation is needed but may not be an appropriate tool for the Tucson region.

## Local Tax Revenue and Capital Improvement Projects

Local tax revenues are used for local funding priorities. The CIP budget is typically planned over a five-year period because it is funding construction projects rather than day-to-day operating costs. The CIP budget includes all the costs necessary for major construction projects such as land acquisition, project design, project management, and construction costs. The CIP is funded primarily through taxes, fees, grants, and bonds. Tax revenues can fluctuate with the economy and local spending so it is important to balance urban design, mobility and safety needs with a balance of other regional and federal funds. Many examples of CIP projects

with GI can be found in the City of Tucson since they follow the Green Streets Active Practice Guidelines.

Special Revenue funds consist of revenue sources that are dedicated to a specific purpose. This includes state and local taxes as well as grants and certain fees. Special revenue tax funds, such as Rio Nuevo tax increment financing fund, have been used for GI projects. One such project is the Scott Avenue retrofit in downtown Tucson.

## Regional Transportation Authority

The Regional Transportation Authority (RTA) is an independent taxing district within Pima County overseen by the PAG Regional Council members. The RTA delivers multimodal transportation projects that improve our region's mobility, safety and environment through a half-cent excise tax. Pima County voters approved the 20-year RTA plan in 2006.

The current RTA program is set to expire in 2026, which is prompting an "RTA Next" process. In 2020, the RTA is in the process of developing the plan for "RTA Next." Currently, as a general value engineering rule, landscape costs on RTA projects must be under 4% of the project budget. The challenge is when landscape is also performing functions for drainage management or when sufficient funds are not available for this end of a project. The current RTA has a category of funding for wildlife corridors, which in the environmental planning field are considered large scale GI projects. Voters in the future may be interested in small scale GI installation and maintenance in developed transportation corridors either as a category of funding or as a part of the enhanced drainage and safety performance for each roadway project. In Maricopa County, the half-cent sales tax for transportation approved through Proposition 400 is the comparable effort approved by Maricopa County voters in 2004. This could serve as an example of other areas the Pima County RTA could fund. The MAG Prop 400 funding goes in part toward regional and state highways and encompasses landscape maintenance and outreach.



# Accessing Non-Transportation Loan and Grant Programs

## 604(b) Funds

The Arizona Department of Environmental Quality (ADEQ) distributes the 604(b) Water Quality Management Program with a focus on water quality management planning (not projects on-the-ground). Up to \$60,000 is available annually and is currently given on a rotational basis to each of the Designated Planning Agencies (DPA) under section 208 of the Clean Water Act, across the state. The DPAs may work or pass the funds to other partners such as cities, Universities and non-profits. Allowable categories have included LID, flood control, stormwater infiltration, streambank stabilization, education/outreach, and addressing pet waste. Priority has been given to plans that address Impaired Waters. In Pima County, PAG is the DPA and the Santa Cruz River's impairment for *E. coli* contributed by stormwater can be addressed through GI planning. Past uses of these funds have included updating GI standards and specifications in the Maricopa region. This document may help prepare similar local efforts.

## Urban Forestry Grants

The Urban and Community Forestry Challenge Cost-Share Grant Program is run through the National Urban and Community Forestry Advisory Council (NUCFAC) established in the 1990 Farm Bill under the U.S. Forest Service.<sup>35</sup> NUCFAC assists the Secretary of the U.S. Department of Agriculture in the grant application and development process. The purpose of the grant program is to fund urban and community forestry projects that have a national or regional impact.<sup>36</sup> While this program is not designed to fully fund capital projects or demonstration projects, it could be an important source of funding for capacity building and planning to set policies that incentivize GI for transportation. For example, the Fiscal Year 2020 funding cycle invites applications for projects that integrate urban and community forestry into all scales of planning (including transportation) or for efforts to promote health and resilience of urban and community forests. Previous funding rounds have focused on projects that will address significant barriers to GI, focusing on the role of trees and urban forests.



Palo Verde pocket park.  
Photo: Watershed Management Group



The Urban Forestry Grants create opportunities for transportation agencies to work collaboratively with civic organizations and local governments to implement a green street policy, integrate GI upfront in planning processes, or address specific barriers to including GI in transportation projects.

### Community Development Block Grants

The U.S. Department of Housing and Urban Development (HUD) Community Development Block Grants (CDBG) program provides annual grants through a formula to local governments and states. The CDBG program is designed to assist in community redevelopment, providing funding to expand economic activity, improve community services, and revitalize neighborhoods. Eligible activities include the construction of water infrastructure and streets.<sup>37</sup> States and local governments could look to the CDBG program as a potential source of funding to add GI elements into a street reconstruction project, for example.<sup>38</sup>



Rincon Heights Pocket Park Art.  
Photo: Watershed Management Group

### EPA Section 319 Funding

Authorized by Section 319 of the Clean Water Act, this program provides funding to projects that address nonpoint source pollution reduction projects.<sup>39</sup> These funds are distributed by the U.S. EPA to state and tribal agencies which then administer them. In Arizona, the ADEQ Water Quality Division manages the state's 319 Program. ADEQ awards Water Quality Improvement Grants to local governments, watershed partnerships, and other entities to fund projects that will quantifiably reduce nonpoint source pollution. The grant program is one element of the Department's 5-year Nonpoint Source Management Plan. At times ADEQ has targeted these funds toward waters with impairments. Since the Santa Cruz River has an impairment for *E. coli* contributions in stormwater, GI is a valid solution for treatment.

### EPA/NFWF Five Star and Urban Waters Small Grants Program

This program, an evolution of an earlier EPA Urban Waters Small Grants Program, is co-sponsored by EPA and the National Fish and Wildlife Federation (NFWF). The program supports projects that develop community stewardship of natural resources and address water quality issues.<sup>40</sup> Urban tree canopy restoration and stormwater management are among the activities funded through the program.

### FEMA Pre-disaster Mitigation Grant Program

This FEMA program is designed to assist local communities with implementing a natural hazard mitigation program in order to reduce overall risk from future disasters. This program awards planning and project grants and provides opportunities for raising public awareness about reducing future losses before disaster strikes. To be eligible, projects must be consistent with the goals and objectives identified in a current FEMA-approved Hazard Mitigation Plan.<sup>41</sup> GI is an eligible mitigation method.

### FEMA Flood Mitigation Assistance Grant Program

FEMA's Flood Hazard Mitigation Assistance program provides funding support to communities for projects that reduce the risks associated with flood and drought conditions. Aquifer storage and recovery, floodplain and stream restoration, flood diversion and storage, and GI methods are eligible for funding.<sup>42</sup>





A rainy day on Scott Avenue.  
Photo: PAG

## Clean Water State Revolving Fund

Like the Section 319 funding, the Clean Water State Revolving Fund (CWSRF) provides federal funds to state-administered programs which, in turn, distribute money to qualifying cities, towns, special districts and tribes. These awards are typically loans, with very favorable repayment provisions and occasional interest or principal forgiveness options. In Arizona, the CWSRF is managed by the Arizona Water Infrastructure Finance Authority (WIFA).<sup>43</sup> Stormwater management projects, including GI, are eligible for funding. Financing GI through the CWSRF allows transportation agencies to access project funds with no application or closing fees, 30 year repayment periods, and other advantages. WIFA also provides funding for technical assistance, enabling local governments to develop, fund and implement capital improvement projects.

The City of Flagstaff, in conjunction with Tucson-based Watershed Management Group, recently used WIFA technical assistance to develop a GI-focused Watershed Action Plan. The City of Peoria recently closed a 20-year, \$6.2 million dollar loan to fund several stormwater management projects. The low, 1.6% interest rate and \$1 million of forgivable principal enable the City to undertake drainage and flood reduction projects affordably.<sup>44</sup>

## Local utility fees

Two jurisdictions within Pima County have adopted specific fees, levied against water customers or

property owners, that provide sustainable revenue for GI projects. Coordination with these municipalities may create opportunities to align funding for specific projects.

### Tucson Water Green Stormwater Infrastructure Fund

The Green Stormwater Infrastructure (GSI) Fund adopted in 2020, creates a reliable and dedicated funding source for planning, implementing, education, and maintaining GI projects city-wide. The fund will be resourced by a fee, assessed on Tucson Water customers within the City of Tucson, generating approximately \$3 to \$5 million per year. The majority of this sustainable revenue stream will be allocated to installation of GI projects; however, a portion will be directed to maintenance of existing projects and administration of the City's stormwater program.

### Oro Valley Stormwater Utility

Established as an enterprise fund in the stormwater code, the stormwater utility "provides for the planning, design, construction, operation, and maintenance of stormwater facilities that safely drain and control the quantity and quality of storm run-off" in accord with the Town's stormwater management plan. Projects include ROW improvements.

# Policies that Support or Ensure Projects

## Offsets/ In Lieu

In lieu fees or offsets provide flexible pathways for property developers to comply with local stormwater codes. When soil conditions or other factors limit or preclude on-site management of requisite volumes of stormwater and vegetation, these provisions allow developers the option to construct equivalent stormwater management and vegetation at an alternative location or to pay local government a fee intended to fund publicly constructed stormwater and vegetation practices. The benefit of these

options is in the reduction in the number of projects granted waivers or exemptions from stormwater and vegetation management requirements. An example In-Lieu Compensation program could require that the ROW user(s) shall be responsible for covering 100% of the replacement cost for plant material removed during a project if there is no adequate space on site or nearby for replacement landscape and no space for stormwater harvesting. For retrofit sites, where the shade cover goals cannot be met, nearby sites may be used or commensurate payment into a GI fund.

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Any funded redevelopment or enhancement project that doesn't incorporate green street facilities as required in the Stormwater Management Manual but that requires a street opening permit or occurs in the ROW shall pay into a "% for Green" Street fund. The amount shall be 1% of the construction cost for the project. Exceptions apply such as emergency maintenance, repair of driveways, pedestrian path replacement, tree planting, and utility pole installation.



*Portland, OR: leaders in successful green streets practices.  
Photo: Andrey Yachmenov on Unsplash*



## Part 2 Endnotes

- <sup>32</sup> For information on Pima County bond issuances and related projects, see <https://webcms.pima.gov/cms/one.aspx?portalId=169&pageId=7386>.
- <sup>33</sup> Pima County. (2017, July 11). Climate Resolution. <https://webcms.pima.gov/cms/One.aspx?pageId=356418>
- <sup>34</sup> See Earth Economics, Go Green: Muni Bond Financing for Distributed Water Solutions, available at [https://tapin.waternow.org/wp-content/uploads/sites/2/2019/02/GASB\\_Go-Green.pdf](https://tapin.waternow.org/wp-content/uploads/sites/2/2019/02/GASB_Go-Green.pdf).
- <sup>35</sup> See National Forest Resiliency Innovation Challenge Cost Share Grant Program Online Grant Portal at <https://grants.urbanandcommunityforests.org/>
- <sup>36</sup> U.S. Department of Agriculture U.S. Forest Service. (2018). Urban and Community Forestry. <http://www.fs.fed.us/ucf/nucfac.shtml>
- <sup>37</sup> U.S. Department of Housing and Urban Development. Community Development Block Grant Entitlement Communities Grants. [http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/comm\\_planning/communitydevelopment/programs/entitlement](http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs/entitlement)
- <sup>38</sup> Information available at <https://www.hudexchange.info/programs/cdbg/>,
- <sup>39</sup> “Nonpoint source” runoff or pollution is another term for stormwater.
- <sup>40</sup> National Fish and Wildlife Foundation. (2020). Five Star and Urban Waters Restoration Grant Program. <https://www.nfwf.org/programs/five-star-and-urban-waters-restoration-grant-program>
- <sup>41</sup> Federal Emergency Management Act. (2019, December 23). Pre-Disaster Mitigation Grant Program. <https://www.fema.gov/pre-disaster-mitigation-grant-program>
- <sup>42</sup> Federal Emergency Management Act. (2020, February 20). Flood Mitigation Assistance Grant Program. <https://www.fema.gov/flood-mitigation-assistance-grant-program> and Federal Emergency Management Act. (2018, February). Mitigating Flood and Drought Conditions Under Hazard Mitigation Assistance. <https://www.fema.gov/media-library/assets/documents/110202>
- <sup>43</sup> <https://www.azwifa.gov/loan-programs/?cw>
- <sup>44</sup> <https://www.azwifa.gov/loan-programs/?cw>
- <sup>45</sup> City of Tucson. (August 2016). Floodplain Management Plan. TSMS Phase V.

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