



Storm to Shade

FY 24 | 25
Annual Report



December 2025

Storm to Shade Program

2024-2025 Annual Report

City of Tucson

Regina Romero, Mayor

Tim Thomure, P.E., City Manager

John P. Kmiec, MPA, Tucson Water Director

City Council Members

Lane Santa Cruz, Ward One

Paul Cunningham, Ward Two

Kevin Dahl, Ward Three

Nikki Lee, Ward Four

Roque Perez, Ward Five

Karen Uhlich, Ward Six

Prepared by

Blue Baldwin, Storm to Shade Program Manager

James MacAdam, Conservation and Stormwater Resources Administrator

Jon Choi, Project Manager

Caleb Ortega, Project Manager

Melinda Pittman, Project Manager

Brooke Bushman, Maintenance Program Manager

Xochitl Coronado-Vargas, Public Outreach Coordinator

Acknowledgements

Storm to Shade would not exist were it not for decades of innovation and groundwork laid by leadership at Tucson Water, crucial support from Mayor and Council, and concrete action taken by staff in Tucson Water's Conservation and Stormwater Resources Division. S2S is endlessly grateful for the deep collaboration offered by our departmental partners throughout the City of Tucson (One City, One Team!) and to all our community partners on the ground who turn visions into reality. Finally, bottomless gratitude to the incomparable Storm to Shade team who consistently exemplify excellence in every sense of the word.



Above: Rudy Garcia Park Parking Lot GSI Basins
Cover (left to right): Pantano ROW Project , GSI Maintenance at Lower Lincoln Park, Rudy Garcia Park GSI Median

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Introduction



Stone Ave Bike Boulevard - GSI bike lane buffer

Storm to Shade (S2S) is the City of Tucson's green stormwater infrastructure (GSI) program, launched in January 2021 to plan, build, and maintain GSI in public spaces across the city. GSI captures and infiltrates stormwater runoff from impermeable surfaces to support native vegetation. GSI delivers wide ranging benefits—healthier soils, cleaner air and water, cooler and shadier neighborhoods, and more vibrant and attractive public spaces.

As part of the City's broader response to ongoing drought and the Climate Emergency declared in 2020, S2S provides a low cost, sustainable, and effective strategy for mitigating urban heat while conserving potable and reclaimed water resources. Launched as a pilot in January 2021 and made permanent by Mayor and Council in June 2023, the program is funded through a water consumption-based fee on residential and commercial City of Tucson utility customers within city limits.

Since its inception, S2S has constructed 16 new GSI projects, with six completed in FY25 and 20 in the design pipeline. In FY25, Mayor and Council approved a \$0.02 per CCF increase to the fee that supports S2S' work, reflecting strong and sustained demand for GSI across Tucson. This support enabled S2S to add 1.5 new staff positions to accelerate the delivery of ~26 projects in design or construction. The program successfully expanded its impact with new funding sources and partnerships. In FY25 S2S secured an Arizona Water Infrastructure Finance Authority (WIFA) grant of federal funds for the removal and replacement of ornamental turf and barren landscape with GSI at El Pueblo Neighborhood Center, a beloved multi-jurisdictional community resource on Tucson's south side. S2S continued to partner with the City's Departments of Transportation & Mobility, Parks & Recreation, and Tucson Water; it also forged a new opportunity for collaboration with the Department of Housing and Community development, bringing the benefits of GSI to City-owned affordable housing units.

On the maintenance front, S2S fully deployed a comprehensive asset management system that tracks maintenance activities for approximately 850 individual GSI assets. S2S continued to deliver leading-edge GSI maintenance training to landscape professionals and City staff via Tucson Water's partnership with Pima Smartscape, increasing shared knowledge of best practices and improving the performance of GSI assets citywide. New Requests for Proposals (RFPs) for landscape design and maintenance contractors were launched to support the increasing volume and complexity of both new projects and maintenance activities.

Finally, building on the highly successful collaboration with the Pima County Regional Flood Control District initiated in 2020, S2S helped deliver the Alvernon Stormwater Park. This project integrates GSI and flood control and demonstrates how cross-jurisdictional partnerships can scale GSI to increase public benefits. All of these efforts were complemented by a robust public outreach program designed to solicit community input, increase awareness of GSI, and ensure equitable investments.

In summary, S2S strengthened collaboration around GSI construction and maintenance across City departments, embraced new partnerships and funding sources, increased capacity to deliver projects, elevated recognition of the urban landscape as essential public infrastructure, and a continued commitment to equity-driven investments.

Contact/Follow Us



tucsonaz.gov/water/S2S



S2S@tucsonaz.gov



Storm to Shade/
Chubasco a Sombra



@stormtoshade



Storm to Shade



El Rio Neighborhood Center GSI landscape retrofit

Program Status

Program Budget

S2S began accumulating funds in May 2020. At \$0.15 cents per Ccf of water consumed, the average household pays approximately \$1.05/month toward the program.

Table 1: Fiscal year budget & fund balance

Fiscal Year	Approved Budget	Expenditures	Revenues	Fund Balance
FY 20	\$-	\$-	\$631,681	\$631,681
FY 21	\$2,718,780	\$188,039	\$3,640,411	\$4,084,054
FY 22	\$3,047,590	\$656,342	\$3,462,654	\$6,890,366
FY 23	\$3,394,040	\$1,449,519	\$3,316,905	\$8,757,752
FY 24	*\$11,473,736	\$2,961,268	\$3,826,977	\$9,623,461
FY 25	\$11,248,425	\$3,332,175	\$3,928,858	\$10,220,143

*FY24 and FY25 budgets were made higher to allow for potential large expenditures of fund balance.

Table 2: Expenditures to date by category (July 1, 2020 – June 30, 2025)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Commodities		\$8,447	\$6,955	\$20,457	\$4,935
Personnel	\$116,333	\$440,833	\$469,508	\$611,169	\$778,235
Services	\$71,707	\$197,392	\$973,056	\$2,329,642	\$2,549,005
Grand Total	\$188,039	\$656,342	\$1,449,519	\$2,961,268	\$3,332,175

Construction Program

S2S continues to plan and build new GSI projects throughout Tucson. These projects are developed both independently by S2S and in collaboration with other City departments. To accelerate project delivery, the team has added two new project managers — one full-time and one part-time employee.

Project selection is guided by the following criteria:

- 1.** Tucson Equity Tree Index (TETI): Prioritize areas with moderate to high TETI rankings. TETI combines data on tree canopy, climate, demographics, and socioeconomic factors.
- 2.** Partnership Opportunities: Align GSI projects with other City and regional investments :
 - Proposition 407 (Parks & Connections Bond)
 - Proposition 101 (Tucson Delivers Better Streets)
 - Regional Transportation Authority (RTA) projects
 - Housing and Community Development Investments
 - Pima County Regional Flood Control District projects
- 3.** Small-Scale Retrofits: Target smaller, cost-effective projects that can be delivered quickly and enhance larger infrastructure efforts.

Newly constructed Pantano right-of-way project after a rain



GSI Construction Projects Snapshot

S2S has a total of 38 Projects in design, construction, or complete as of the end of FY25. All sites are located on public property including city streets, parks and neighborhood centers, washes, Tucson Water well sites, City-owned remnant properties and public rights-of-way.

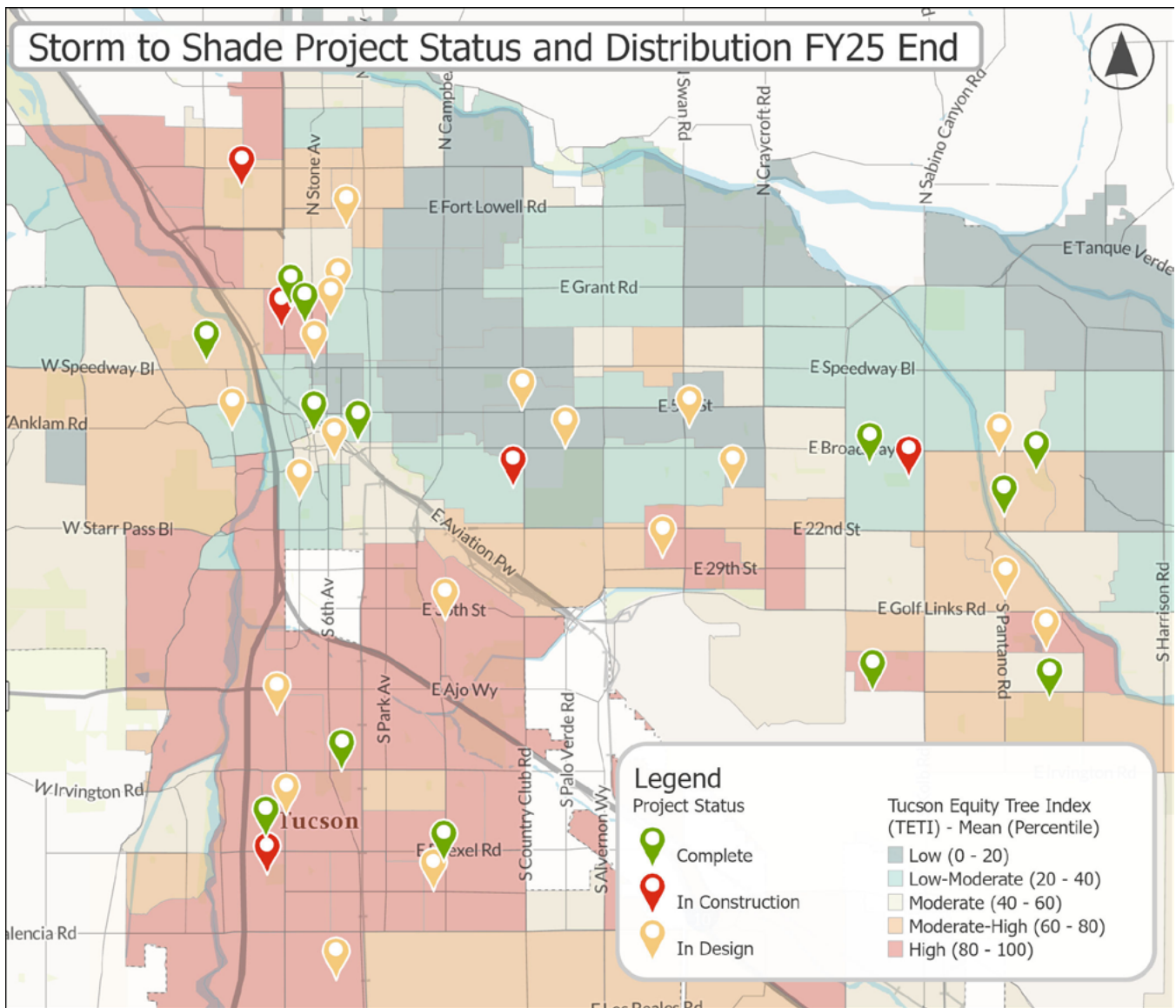
Table 3 and Map 1 provide an overview and location for each active project.

Table 3: Storm to Shade Construction Projects

Ward	Project	Description	Trees	*Partner	**TETI	Status
W1	El Rio Neighborhood Center	GSI landscape retrofit	47	N/A	79 MH	Complete
W1	Holladay Traffic Triangle	GSI traffic island	6	N/A	98 MH	Complete
W2	Jesse Owens Park	GSI landscape improvements	15	N/A	63 MH	Complete
W2	Pantano ROW	GSI bus stop/ROW basins	57	N/A	63 MH	Complete
W2	PVP Wellsite C-025	GSI wellsite improvements	54	N/A	38 LM	Complete
W3	11th & Flores	GSI chicanes/basins	50	N/A	95 MH	Complete
W3	9th Ave Bike Boulevard	GSI curb extensions	25	DTM	95 MH	Complete
W4	Lower Lincoln Park	GSI parking lot	48	Parks	65 MH	Complete
W4	TEP Aviation Greenway	GSI greenway path	222	N/A	80 MH	Complete
W5	CSM Gunny Barreras	GSI park basins/swale	35	Parks	100 H	Complete
W5	Rudy Garcia Parking Lot	GSI parking lot	33	Parks	97 H	Complete
W6	Ironhorse Park	GSI park basins/swale	16	Parks	49 M	Complete
W6	Stone Ave Complete Street	GSI protected bikeway	0	DTM	40 M	Complete
W1	Mission Manor Park GSI Parking Lot	GSI parking lot	35	Parks	91 H	Construction
W2	Langley Parcel	GSI pocket park	42	N/A	38 LM	Construction
W3	Jacobs Park	GSI landscape improvements	TBD	Parks	78 MH	Construction
W3	Wildcat Inn	GSI playground landscaping	5	HCD	95 H	Construction
W6	Arroyo Chico Greenway	GSI greenway section	0	DTM	28 LM	Construction
MO,W1,W5	S 12th Ave GSI Retrofit	GSI landscape retrofit/chicanes	68	DTM	97 H	Design
W4,W5,W6	Andrew St Bike Boulevard	GSI street treatments	45	DTM	73-90 MH-H	Design
W5,W6	18th & Main	GSI intersection treatments	9	DTM	39 LM	Design
W1	Challenger Middle School ROW	GSI ROW greenway	27	N/A	93 H	Design
W1	Rodeo Wash Parks 1 & 2	GSI landscape improvements	TBD	Parks	92 H	Design
W1	Congress St/Grande Safety Corridor	GSI safety corridor	TBD	DTM	31 LM	Design
W2	Ward 2 Office	GSI landscape upgrades	10	N/A	63 MH	Design
W3	Econolodge Renovation	GSI rooftop runoff/basins	11	HCD	10 L	Design
W3	Blacklidge Bike Boulevard	GSI street treatments	30	DTM	1-68 L-MH	Design
W3	Linden St GSI	GSI bumpouts	12	N/A	39 LM	Design
W3	Dorris J. Thompson	GSI parking lot islands	32	Parks	39 LM	Design
W4	Dietz ROW GSI	GSI ROW greenway	30	N/A	68 MH	Design
W4	Lakeside Park	GSI basins/swale	58	N/A	85 H	Design
W5	Bilby Road Complete Street	GSI basins/swale	16	DTM	100 H	Design
W5	El Paso & Southwestern Greenway	GSI multi-use path	59	DTM	83 H	Design
W6	5th 6th Pedestrian Safety	GSI traffic triangle	14	DTM	3 L	Design
W6	Armory Park East GSI	GSI park treatments	11	Parks	40 M	Design
W6	Broadway Randolph	GSI multi-use path/basins	56	N/A	3 L	Design
W6	Burns Park	GSI park improvements	39	N/A	15 L	Design
W6	Magnolia Ave Retrofit	GSI curb extensions	5	N/A	65 MH	Design

*Partners - Parks and Recreation Department (Parks), Department of Transportation and Mobility (DTM), Housing and Community Development (HCD)

**TETI - (HP - High Priority, UM - Upper Moderate Priority, LM - Low Moderate Priority, LP - Low Priority)



Map 1: Construction projects distribution

GSI Projects Metrics, July 1, 2024 - June 30, 2025

Project metrics are tracked to improve project value, quality, longevity, and maximize ecosystem services and benefits to the community.

- Square feet of GSI constructed - 219,981 sf
- Square feet of asphalt/concrete removed - 8,979 sf
- Average cost per square foot of constructed GSI - \$10.80/sf
- Number of trees planted - 456

Project Example: 9th Avenue Bike Boulevard

S2S funded the addition of a series of chicanes and curb extensions along 9th Avenue between Drachman Street and Grant Road, with additional features installed north of Drachman Street on 10th Avenue. The project was identified in the *City of Tucson Bicycle Boulevard Master Plan* and was built in partnership with the Department of Transportation and Mobility. Stormwater runoff captured from the adjacent streets supports 25 new native shade trees and dozens of native shrubs. The project aims to create safer and cooler routes for cyclists and pedestrians to use.

Project Cost: \$399,137

Ward/Neighborhood: Ward 3/Bronx Park

Water Harvesting Capacity: 156,078 gal

Size: 2,000 sf

Trees planted: 25

Completed: April 2025



Project Example: Jesse Owens Park

S2S funded multiple curb openings and GSI basins across Jesse Owens Park. The project was built in partnership with the Parks and Recreation Department and coordinated with Prop 407 improvements that included new walking paths around the perimeter of the park that provide passive recreation and fitness amenities. Stormwater runoff is captured from nearby parking lots to support multiple existing trees, 18 new native shade trees, and numerous native shrubs planted within the new basins.

Project Cost: \$239,755

Ward/Neighborhood: W2/Broadway Pantano

Water Harvesting Capacity: 13,359 gal

Size: 18,784 sf

Trees planted: 18

Completed: April 2025



Partnering with Pima County

In FY25, the partnership originally forged in 2021 between the City of Tucson and Pima County Regional Flood Control District (the District) delivered the Alvernon Stormwater Park, a flood control facility that provides the multiple benefits of GSI while mitigating flooding in the surrounding neighborhood. Like the six previously existing stormwater parks constructed and/or managed under the City-County intergovernmental agreement (IGA) of '21, the District designed and constructed this project before passing long term maintenance of the landscape elements to Storm to Shade. This ensures that it provides maximum GSI benefits including shade, cooling, habitat, public green space, and is an asset to the community.

This novel City-County collaboration to “maximize the number, size and performance of GSI projects on City- or District-owned property within the City, large enough to reduce flooding risk or pollutant loads at tributary watercourse confluences...” facilitates the construction of new stormwater parks within the City, with the District constructing approximately one new project each fiscal year. There are now six total collaboratively managed projects (five managed previously in FY23-FY24) with a new project, the Julia Keen Stormwater Park, anticipated for FY26.

Alvernon Stormwater Park



Alvernon Stormwater Park	Project Area	Construction Cost
	52,000 SF	\$311,960

Maintenance Program

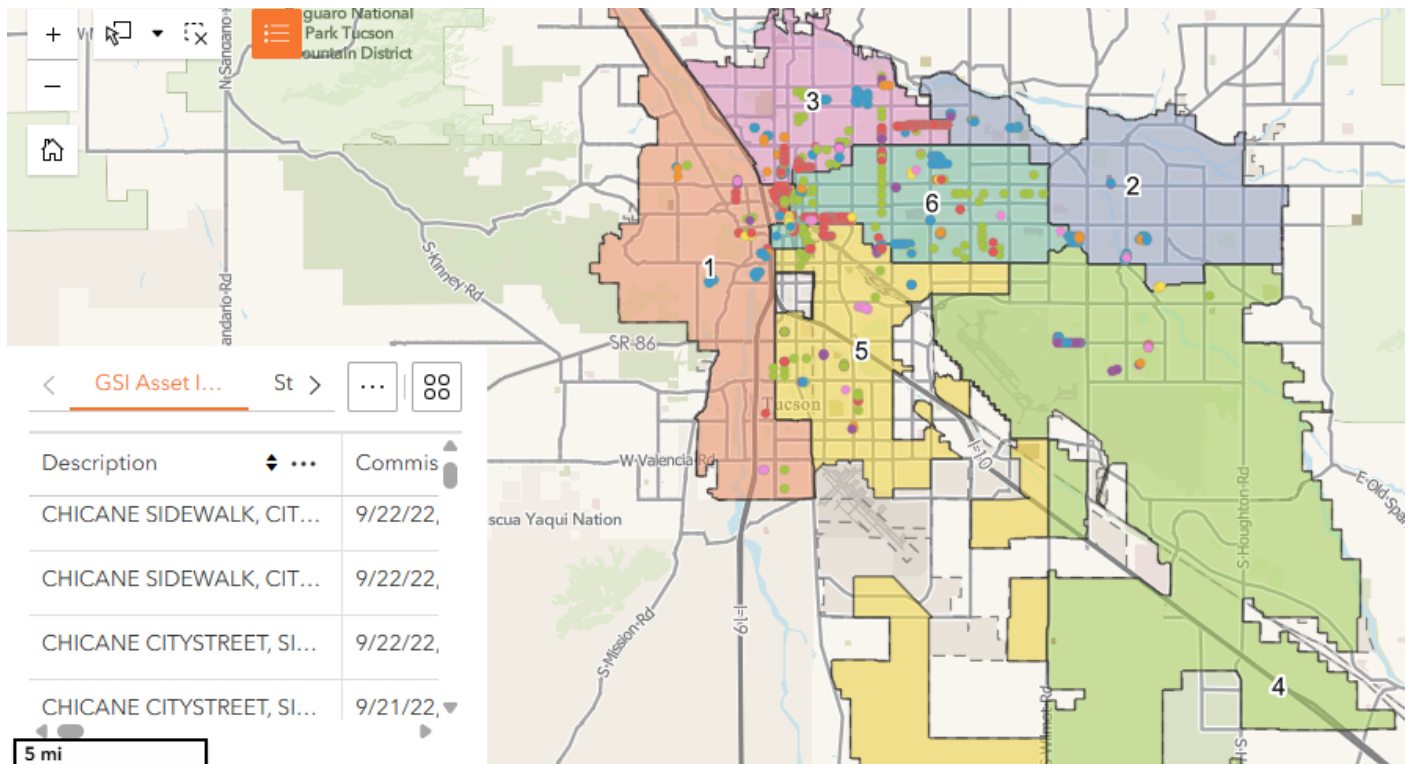
In FY25, Storm to Shade both expanded and honed the management of GSI assets via the fully fledged asset management system. The goal of the S2S Maintenance Program is to maintain GSI assets as formal public infrastructure, ensuring and maximizing their functionality to provide multiple benefits. Proper ongoing maintenance is crucial to ensuring GSI provides benefits such as improved air and water quality, minor flood mitigation, and shade and cooling the urban environment, which can ultimately improve public health and quality of life.

In FY25 S2S achieved the following key milestones in this period:

- Inventoried ~110 new GSI assets*, bringing the total number of assets tracked to ~900
**GSI assets are individual components of GSI projects. Projects include those constructed by S2S (7 projects), Department of Transportation and Mobility (4 projects), Tucson Clean and Beautiful's Rainworks Program (3 projects), and Pima County Regional Flood Control District (1 project)*
- Created a process for partners such as the Department of Transportation and Mobility and the Tucson Clean and Beautiful Rainworks Program to request S2S maintenance for GSI constructed under non-S2S programs.
- Significantly increased maintenance expenses in wards with low Tucson Equity Tree Index (TETI), reflecting the completion of new GSI projects and subsequent maintenance expenditures in high priority neighborhoods.

Elvira Stormwater Park - Invasive species control study





S2S GSI Asset Inventory ~790 GSI assets with different GSI types displayed by colored dots

- Used the S2S Financial Forecasting Tool to anticipate future maintenance expenditures for the forecasted ~100 assets/year entering the S2S Maintenance Program
- Published a Request for Qualifications to hire additional GSI maintenance contractors
- Published a second (updated) edition of the S2S GSI Maintenance Protocol Pocket Guide
- Updated Memorandums of Understanding between S2S and the Departments of Parks & Recreation and Transportation & Mobility specifying roles and responsibilities for the maintenance of GSI in City parks and streets, respectively
- Continued to partner with the University of Arizona Cooperative Extension’s Pima Smartscape Program to deliver GSI maintenance training to City staff, landscape maintenance contractors, and the public in both English and Spanish.



GSI maintenance crew participating in Smartscape training



GSI maintenance crew working at Lower Lincoln Park

Total Maintenance Program Expenditures

Table 4: Total fiscal year maintenance program expenditures

Fiscal Year	COT GSI	COT/County GSI	*Other Expenses	Total
FY 23	\$231,405 (89%)	\$8,951 (3%)	\$19,844 (8%)	\$260,200
FY 24	\$379,499 (82%)	\$48,018 (10%)	\$35,429 (8%)	\$462,946
FY 25	\$505,886 (86%)	\$49,400 (8%)	\$36,014 (6%)	\$591,299

* Direct Mx Work means preventative maintenance visits, plus core vegetation and structural corrective tasks- arborist, invasive species control, structural repairs. Other maintenance expenses include GSI signage purchase & installation, drought supplemental and establishment irrigation, S2S seed mix, asset inventories, and mandatory contractor training.

Table 5: Total maintenance expenditures by City Ward

Ward	FY 2023	FY 2024	FY 2025
1	\$25,933	\$57,965*	\$69,021
2	\$2,135	\$0	\$131
3	\$72,540	\$114,732	\$137,133
4	\$6,653	\$24,191	\$33,098
5	\$15,822	\$50,588*	\$117,330
6	\$119,665	\$140,565	\$158,415**

*FY25 S2S "In Construction" and "In Design" projects include 5 projects in Ward 2, for which maintenance will start in FY26

**Ward 6 increase in part reflects addition of Alvernon Park Pima County RFCDD Joint GSI.

Maintenance Metrics, July 1, 2024 - June 30, 2025

- In FY25, S2S maintenance contractors completed 349 preventative maintenance and 146 follow up maintenance work orders at ~660 assets
- Total square footage of GSI maintained ~4.7 million sf
- Average maintenance cost per square foot ~\$0.20

Public Outreach

S2S Engagement Strategy

Building upon the foundation of public engagement established over the past four years, Storm to Shade continues to engage with residents and businesses in proximity to proposed GSI projects, projects in construction, and existing GSI projects. Ahead of project design, community is invited to share concerns and priorities in regard to a proposed project. S2S frequently collaborates on outreach activities with other City departments including the Departments of Parks and Recreation, Transportation & Mobility, and--in the past year-- the Department of Housing & Community Development when there is an opportunity to add GSI to existing City improvement projects.

Outreach activities vary depending on the project and project partner. Typically, activities include hosting community events for residents and businesses during weekends and evenings; attending Neighborhood Association meetings; and meeting with schools, businesses, small groups, and residents one-on-one. Mailers are sometimes used to solicit feedback or provide information.

When outreach efforts are combined with other departments' projects such as bike boulevards or park improvements, family friendly activities include bicycle repair, ice cream socials, movies in the park, and food. Input is collected and recorded via various interactive activities to help inform design. Community celebrations and ribbon cuttings are sometimes hosted upon the completion of large collaborative projects.

As part of Tucson Water, S2S is able to leverage some of TW's existing communication tools. Occasionally, S2S utilizes Tucson Water's monthly airtime on Spanish speaking radio stations to share information about upcoming GSI projects, community events, and stormwater harvesting in general. Another communication opportunity offered by Tucson Water is a monthly full-page advertising space in a popular bilingual newspaper. Weekly and monthly newsletters published by Ward offices and City departments offer additional opportunities to reach the community with information about new and existing projects.

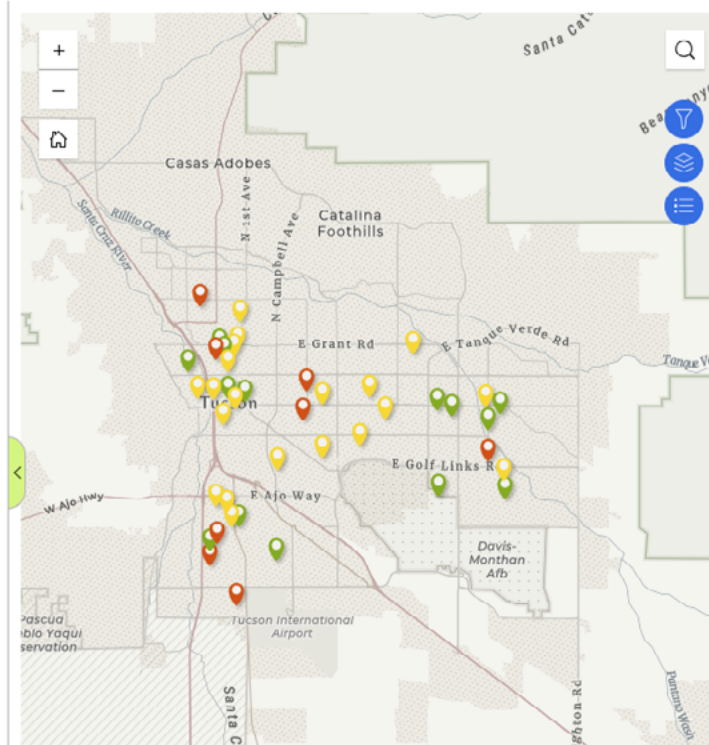
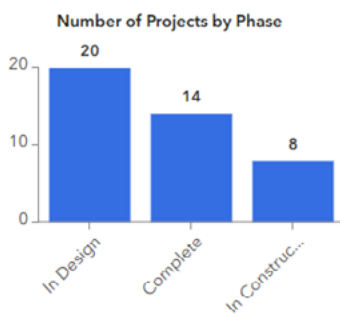
S2S Outreach Coordinator at a community event





Storm to Shade has **42** new GSI projects in design, construction or completed throughout Tucson.

Click on the tabs at the top to see all projects by phase.



42 GSI Project(s)

Scroll down and click on each to learn more.



Complete

Ironhorse Park GSI

Storm to Shade has completed the construction of green stormwater infrastructure in Iron Horse Park. This green stormwater infrastructure installation includes the addition of sidewalk scuppers that allow stormwater running on 10th Street and 1st Avenue to enter and fill newly constructed

[Learn More](#)

S2S Project Dashboard on the City of Tucson's Climate Action Hub

Public Facing Resources

The Storm to Shade website hosted on the City of Tucson's Climate Action Hub is rich with regularly updated information about GSI construction project and features an interactive dashboard that provides project locations, descriptions, and photos. A separate dashboard contains a comprehensive GSI asset inventory, with detailed information specifying the attributes of each individual asset. The website site also contains publications including the GSI Maintenance Pocket Guide (in English and Spanish), GSI LID Standard Details and Site Guidelines, a grass identification guide, and contact information for the S2S team.

With over 1,500 followers and high levels of engagement on Instagram and Facebook, S2S maintains a lively social media presence. Regularly published posts provide updates and information regarding specific projects and maintenance activities; education about native plants, the benefits of GSI, best practices for maintenance, and S2S program partnerships; and invitations to upcoming events. Posts are published in English and Spanish to reach a broad audience.

Looking Forward

In FY26, S2S is focused on the following efforts:

- Construct an estimated 20 new GSI projects currently in design phase.
- Complete WIFA-funded turf replacement and GSI additions at El Pueblo Neighborhood Center and continue to pursue federal, state, and private funding to leverage S2S investments.
- Continue to support City departments and landscape maintenance contractors in building capacity through training and collaborative project management in GSI construction and maintenance.
- Collaborate with City departments to improve integration of stormwater management policies including finalizing a draft Low Impact Development Ordinance for Mayor and Council review and approval.
- Collaborate with the City's stormwater managers to implement GSI to comply with the City's Municipal Separate Stormwater Sewer (MS4) clean water permit.
- Incorporate ~100 new GSI assets presently in establishment into S2S Maintenance Program.
- On board and train 7 new maintenance contractors.
- Collaborate with the Southwest Environmental Finance Center on assessment of asset management workflow efficiencies and opportunities to expand S2S's use of green infrastructure asset management principles.
- Refine the S2S financial forecasting tool using data from FY24 & FY25 to project S2S fund capacity for future projects.
- Develop a GIS-based dashboard to track irrigation schedules for S2S assets.
- Install educational interpretive signage in highly visible S2S projects.
- Center Tucson Equity Tree Index (TETI) as the primary driver for investment in new GSI as well as maintenance expenditures.

Pima Pedestrian Pathway - GSI maintained by S2S

