

Rain to Roots Master Plan

Sustainability & Economic Vitality Council Committee

October 16, 2023



Related Tempe Performance Measures

- **1.27 City Infrastructure & Assets**

Achieve 100% compliance with industry standards related to the replacement or rehabilitation of infrastructure and assets.

- **4.03 – Water Conservation & Efficiency**

Achieve or exceed water conservation and efficiency targets for Single Family, Multifamily and Landscape customer class water use by Fiscal Year 2025/2026

- **4.11 – Tree Coverage**

Achieve a citywide (City and private property) 25% tree and shade canopy by 2040.

Tempe Climate Action Plan Update

Highlight Actions Update

The Sustainability and Resilience Commission identified immediate highlight actions in the first plan that still need policy adoption and investment:



Green Codes and Standards (Green Stormwater Infrastructure and International Green Construction Code adoption):
To establish resilience to extreme heat in new construction 16



Transportation Demand Management and Mobility Hubs:
To increase convenience of low carbon transportations options 19



Resilient Energy Hubs and Resilience Hubs:
To increase community connections and the ability to support survival during disasters 21

Adopted in March 2022

Green Stormwater Infrastructure (GSI)

Benefits of GSI:

- Supports tree canopy
- Reduces temperatures
- Reduces potable water use
- Mitigates flooding
- Promotes cleaner waterways
- Creates wildlife habitat

Learn more about GSI and its benefits at Sustainable Tempe – [Green Stormwater Infrastructure](#).



Rain to Roots Master Plan

- **Project Purpose**

- Expand green infrastructure & urban cooling initiatives.
- Promote cross-departmental coordination & planning.
- Identify opportunities for long-term funding.

- **Areas of Opportunity**

- Streetscapes – Public ROW, traffic calming
- Multi-Use Paths
- Parks
- Neighborhoods
- Private Development



Project Partners

Internal Partners

- **Sustainability and Resilience Office**
- **Municipal Utilities Department**
 - Water Conservation
 - Environmental Services
- **Community Services Department**
 - Parks & Recreation
- **Engineering and Transportation Department**
 - Transportation Planning
 - Streets Maintenance
 - Engineering
- **Community Development Department**

External Partners

- **Consultants** – Greeley & Hansen, WERK | urban design, & Raftelis
- **Rain to Roots Ambassadors**
- **Tempe Residents**
- **Private Businesses**
- ...And More!

*Major Goal =
Better Coordination!*

Project Overview



**Assessing the
Current State**

**Codes &
Standards**

**Urban Forestry
Master Plan
Update**

**Future
Funding
Strategy**

**Pilot
Projects**

**Public
Outreach**

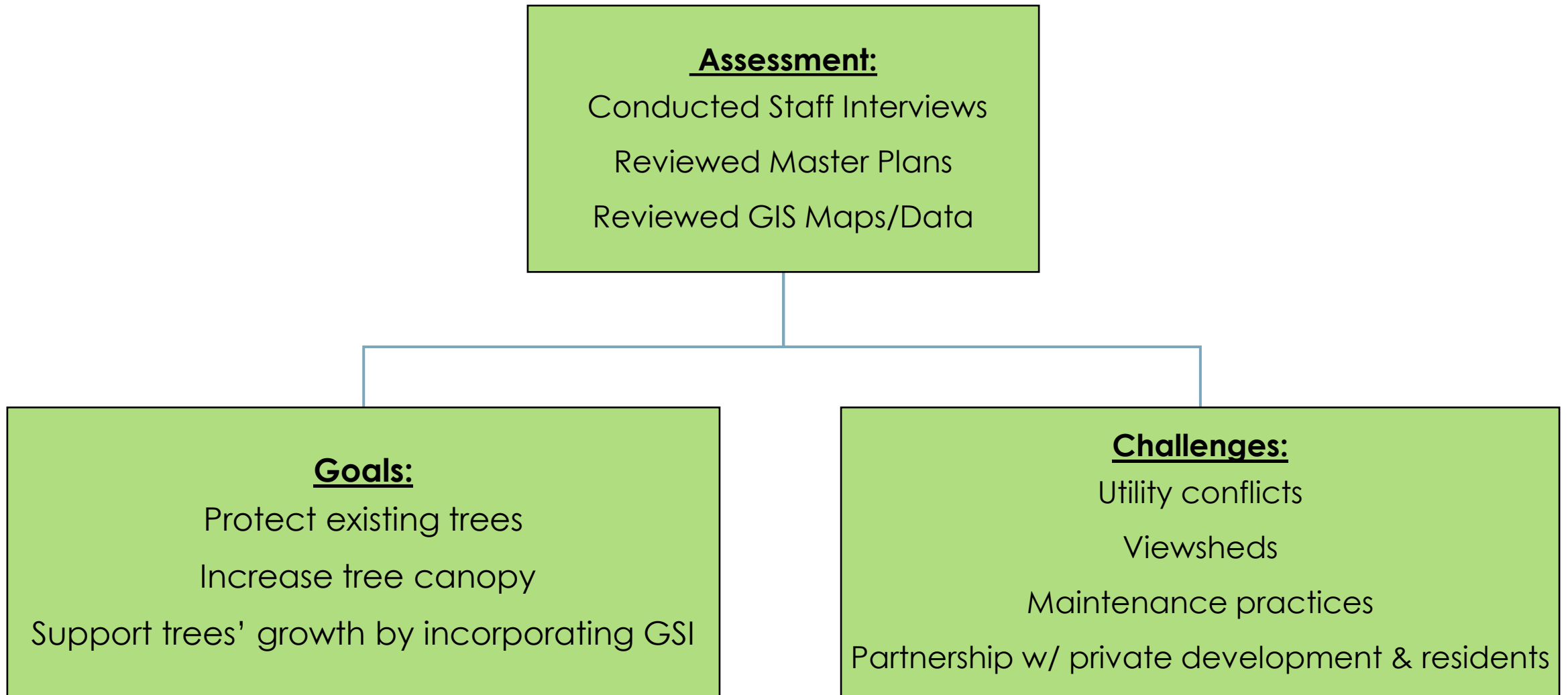
Phase 1: Assessing the Current State

Focused on understanding...

- Existing programs & initiatives.
- Previous GSI projects.
- Stormwater, urban forestry, heat, & equity data.
- Challenges & opportunities for expanding GSI.

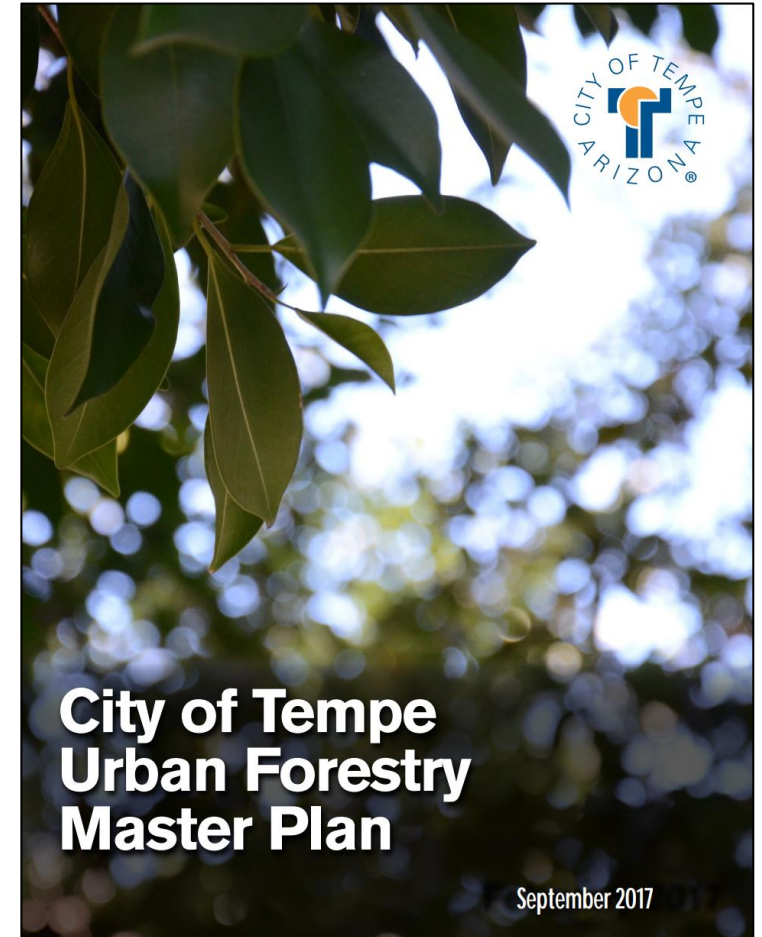
... through interviews, document review, & research.

Assessing Existing Initiatives – *Urban Forestry*



Urban Forestry (continued)

- Next Steps:
 - **Updated Master Plan** w/ recommendations for new programs & policies.
 - Updated **tree canopy maps** & assessment of canopy goals.
 - **New city codes and standards** to promote tree protection & maintenance practices.



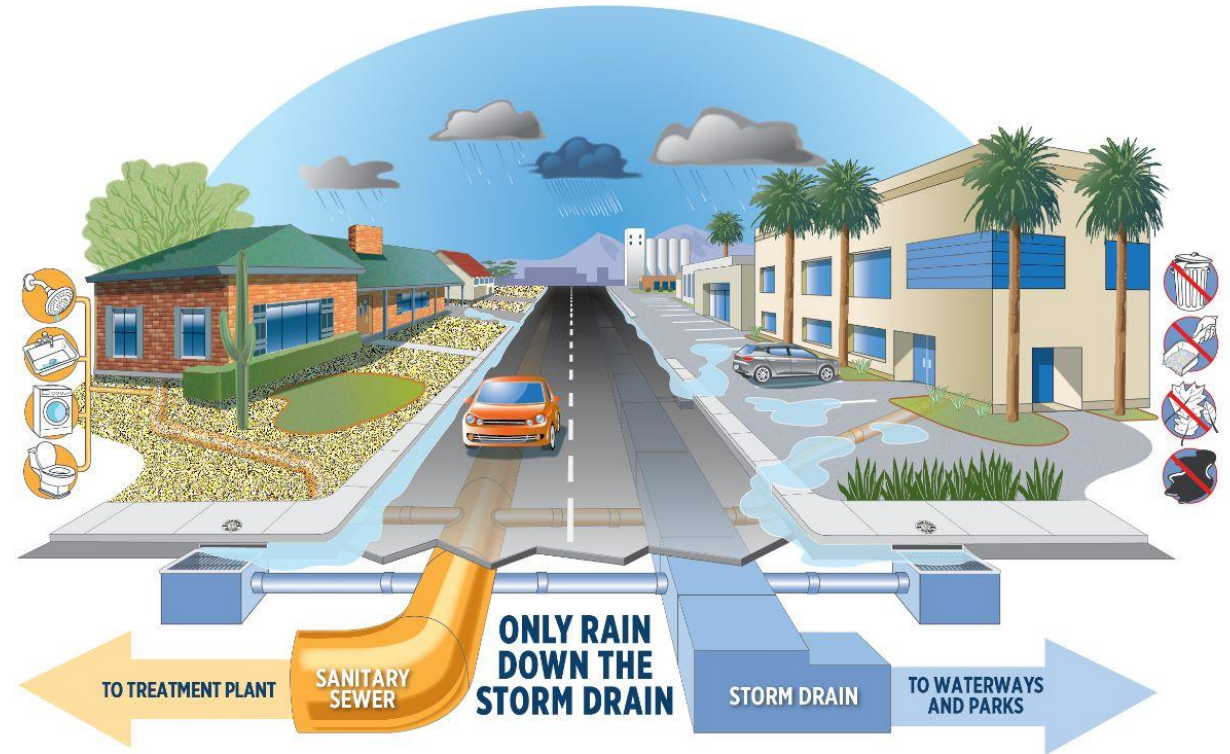
Assessing Existing Initiatives – Stormwater

Assessment:

Conducted Staff Interviews
Reviewed Drainage Studies & Master Plans
Reviewed Stormwater CIP Plan

Goals:

Compliance w/ MS4 Permit
Promote Stormwater Quality
Manage Stormwater Quantity
Integrate GSI into Stormwater CIP Projects



Stormwater (continued)

- **Next Steps:**
 - **Assess** GSI methods that can address both stormwater quantity (flooding) and stormwater quality (pollution) concerns.
 - **Identify** opportunities to integrate GSI into existing & future stormwater CIP projects.

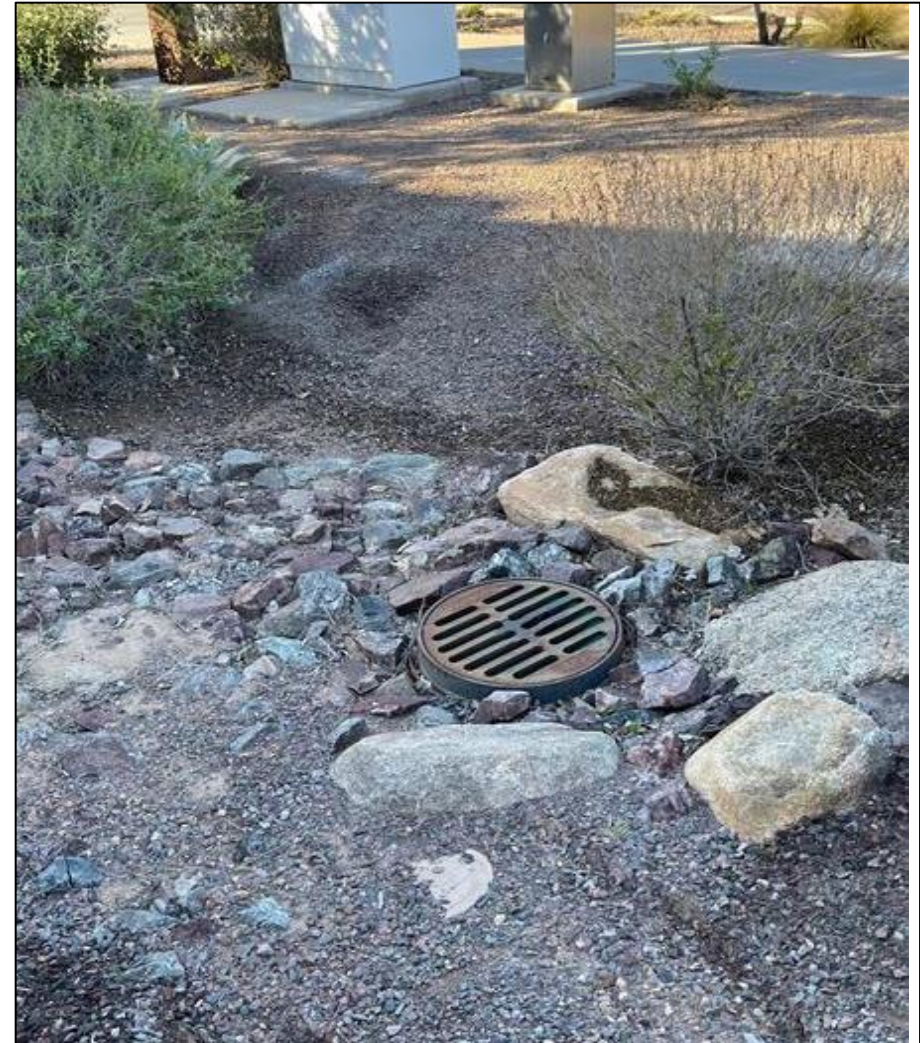
Assessing Existing Policies – Codes & Standards

Assessment:

Conducted Staff Interviews
Reviewed Engineering Design Criteria
Review Zoning & Development Code

Goals:

Provide Guidance for Integrating GSI
Address Existing Maintenance & Utility
Challenges
Streamline GSI Review Process



Codes & Standards (continued)

- **Next Steps:**
 - **Develop** Standards of Care
 - **Develop** Native Vegetation & Biodiversity Toolkit
 - **Integrate** GSI details & standards into existing city codes.
 - Engineering Design Criteria (*for public buildings*)
 - Zoning & Development Code (*for private development*).

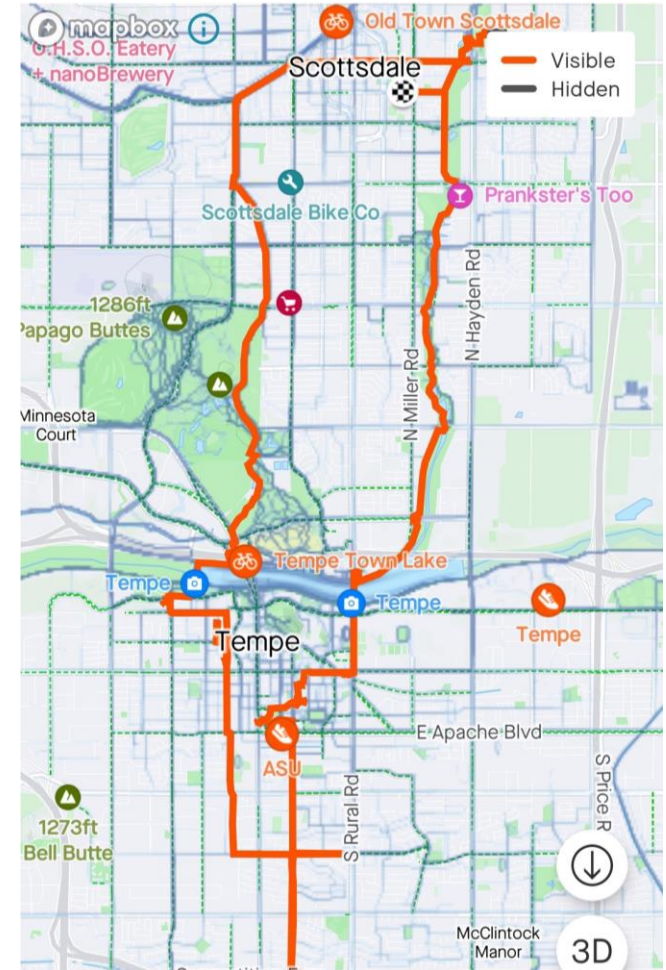
Assessing Existing & New GSI Projects – *Site Visits*

- **Assessment:**

- WERK team visited 25 different sites to inventory and assess existing and potential GSI.
- ***We will discuss this at the December meeting!***



Distance 29.25 mi | Elev Gain 328 ft



Pilot Projects (continued)

- Next Steps:
 - **Create** a new GIS map that includes heat, flooding, urban forestry, and equity data.
 - **Develop** a pilot project prioritization tool to identify future projects.



Pilot Projects (continued)

- ***Pilot projects will...***
 - Build on the assessment of current state.
 - Demonstrate how GSI can be integrated in different types of projects.
 - Test new codes and standards.
 - Leverage connections with Urban Forestry & Environmental Services.



Future Funding Strategy

Next Steps - Utility Feasibility Study

- **Identify** alternative funding solutions for future GSI projects, such as an Urban Cooling and Stormwater Utility.
- **Review** other cities' strategies for funding stormwater management & urban greening initiatives.
- **Coordinate** with Water Rate Study by Municipal Utilities.

Your Voice, Your Future City

Rain to Roots Ambassador

- **Learn** more about stormwater and urban cooling initiatives.
- **Review** project materials.
- **Site visits** on pilot projects.
- **Advise** on direction of programs and policy recommendations to Tempe City Council.



Hybrid meetings on the **1st Wednesday of the month**, 5:30 – 6:30 PM.

Project Next Steps

- **Project Outcomes**
 - Pilot Project Designs
 - City Codes and Standards
 - Urban Forestry Master Plan Update
 - Sustainable Funding Strategy
- **Upcoming Ambassador Program Meetings:**
 - **November 1st:** Urban Forestry
 - **December 6th:** Pilot Projects
 - **January 3rd:** Stormwater



Questions?

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