

Transit Services Doing Something Shady...

Bus Stop Shade Study Results

David Calloway
Transit Coordinator
City of Mesa Transit Services Department
David.Calloway@mesaaz.gov

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Shade Study and Mesa's Climate Action Plan



- The City of Mesa adopted the Mesa Climate Action Plan (MCAP) this year.
- This MCAP plan is a living document designed to help guide the future vision for the City. Heat mitigation is just one of several focus areas of the plan.
- Transit Services identified bus stops a key resource that can be used to mitigate urban heat in support of the Mesa Climate Action Plan.
- Bus stops are the front door to the transit system serving residents across the City including some of the City's most vulnerable residents



Bus stops in Mesa: Front Door to the Transit System

Mesa's Transit Services Department is responsible for the construction, maintenance, and management of bus stops within the City

- 682 bus stops within the City of Mesa
- 332 shelters installed
- 350 with no shelter

Shelter installations are limited by available ROW and size of existing standard bus shelters

Mesa has exhausted nearly all locations that can accommodate existing standard shelter

A new shelter design was needed, as well as an evaluation of shade provided by something other than a shelter



A Shade Study in Two Parts

- Part I: Evaluate all bus stops in the City that do not have a shelter to determine if they have shade from some other source, and what type of shade source
- Part II: Create a new bus shelter design that the City of Mesa wholly owns that can be constructed in areas with narrow ROW with minimal disruption to surrounding area or underground utilities

Part I: Field Analysis and Datapoints

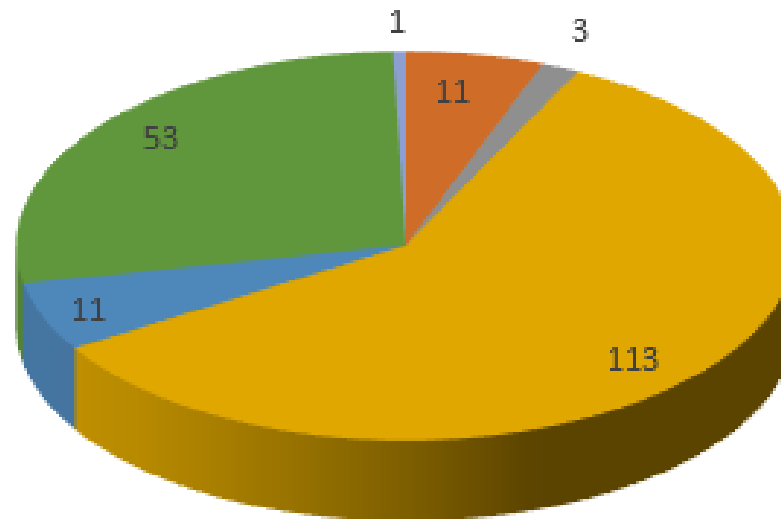
- Stops that do not have shade from an existing shelter were evaluated by the consultant using a mix of fieldwork and desktop analysis.
- 350 total unsheltered bus stops were included in this study
- Some of the datapoints collected included:
 - Verify georeferenced location
 - Transit concrete pad area
 - Presence of shade
 - Type of shade
 - Orientation of shade in relation to bus stop
 - ROW available for construction
 - Photos
 - Above ground utility conflicts



Initial Results

- 192 of 350 bus stops had shade from a source other than a bus shelter

Type of Non-Shelter Shade



■ Adjacent Building ■ Streetscape Shade ■ Tree ■ Vegetation ■ Wall ■ T-38 Fighter Jet

Types of Non-Shelter Shade

- Some results were surprising!
- An Air Force T-38 Training Jet provides shade along with adjacent trees on Sossaman Rd at Phoenix-Mesa Gateway Airport



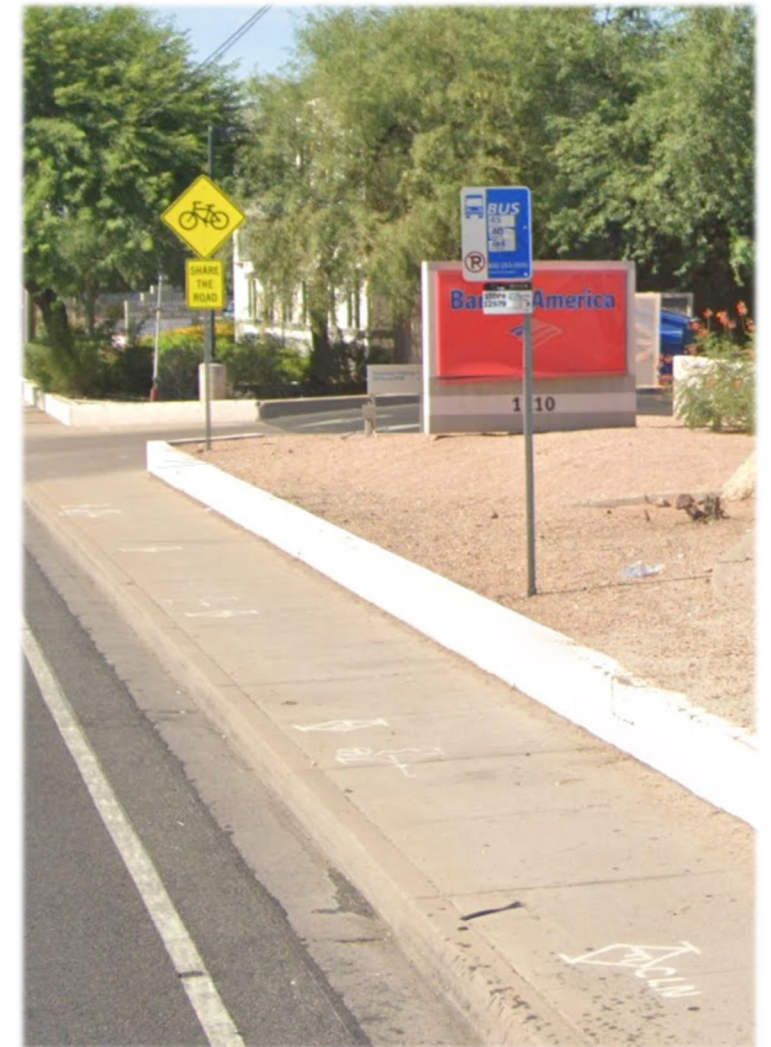
Less Surprising Types of Shade

- The majority of non-shelter shade came from more common sources
 - Trees
 - Walls
 - Adjacent Buildings



The Remaining Unshaded Stops

- 158 bus stops determined to have no existing shade or shelter structure
- What do these stops look like currently and why can't Transit Services just build shelters?



Part II: The Need for New Shelter Designs



Example of stops with drainage/retention conflict



CP0992: Boneyard Shelters

- Shelter components have ended up in City lay-down yard over the past decade coming from:
 - Knockdowns
 - Roadway CIP Projects
 - Advertising Kiosk Retrofits
- Transit has enough components to create roughly 12 shelters and install them on the street



Next Steps

- Creating new bus shelter designs that meet the following criteria
 - Fit in narrow ROW locations
 - Have smaller underground profile to reduce underground utility conflicts
 - Be modular in design to add more capacity as stop ridership increases
 - Ideally be less expensive to build than current standard shelters

Questions?

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