



PEORIA MULTI-MODAL TRANSPORTATION PLAN

Bus Stop Practices in Other Communities

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Prepared for:
THE CITY OF
PEORIA
ARIZONA

Prepared by:
Nelson | Nygaard
consulting associates
**SHERMAN
GROUP INC**
LANDSCAPE ARCHITECTURE
URBAN DESIGN • PLANNING



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BUS STOP PRACTICES IN OTHER COMMUNITIES

INTRODUCTION

Bus shelters can be more than just a place to wait for the bus. Well designed bus shelters can also help to provide a unifying design element for a city. Stops and shelters that incorporate art can also be used to create diversity and interest designed specifically for unique locations.

As part of the effort to determine how to best accomplish this in Peoria, this document presents an overview of how five other communities—Scottsdale, Tempe, Mesa, Phoenix and Tucson—design and integrate artwork into their bus stops.

The survey examined:

- How art was incorporated into bus stops.
- Capital costs.
- Maintenance costs, practices, and experiences.
- Other issues highlighted by the cities that were surveyed.

BUS SHELTER TYPES

Cities with substantial bus systems have large number of bus stops, and different stops serve different purposes and different volumes of passengers. To manage costs, cities and transit systems typically develop (either formally or informally) a hierarchy of stops that range from those with no amenities to those with a very high level of amenities. In the Phoenix area, where shelter from the sun is very important, most stops have shelters, and there is also a large range in shelter design and the use of artwork.

Bus shelters can generally be categorized into one of three types:

Standard Bus Shelters: At the lower end, “standard” shelters are used that consist of a single design (or variations of a single design) that is mass produced and installed at the large majority of stops. Virtually all transit systems use standard shelters, and these are the most common types of shelters in the Valley. Two basic designs are currently being used throughout the Valley: the “Phoenix-style” shelter that is used throughout Phoenix and in other communities that have not developed their own style (including Peoria), and a second design that is being used in Mesa, Scottsdale, and Tempe. It should also be noted that standard designs are often changed periodically, as an old design becomes dated and/or better options become available. For example, Scottsdale’s

stops have three versions of standard designs: two older versions plus the current version.

Special Purpose Designs: For a variety of reasons, there is also a need and desire to develop special purpose designs that are either more attractive and/or provide better facilities and amenities than standard bus shelters. Examples are for premium services such as light rail, Rapid Bus, and BRT, and where special stop facilities are desired as part of a streetscape or development project.

Art Bus Stops: At the upper end, very attractive one-of-kind designs that are works of art are often developed at key locations such as transit centers, major schools, high volume downtown stops, art centers, sport centers, medical centers, etc. The Phoenix area has been especially active in developing art bus stops, and as described in this document, provide many examples of what could be done in Peoria.

ART BUS SHELTERS

All five cities that were surveyed have developed bus stops that are also one-of-a-kind works of art. These stops are typically at high passenger volume stops in key high visibility locations. In general, these stops have been developed in a manner that can create a focal point for a point of interest or a neighborhood, and also be functional.

PHOENIX

Phoenix has approximately 50 art shelters that are located throughout the city. Area residents and workers like these bus shelters because they are attractive and provide a distinguishing feature to the areas that they live and work. Examples are provided in Figure 1.

Figure 1: Phoenix Art Bus Stops

| | |
|---|--|
|  | <p>City: Phoenix Location: 35th Avenue Artist: Mary Lucking Cost: \$300,000 for 5 shelters and 15 art benches. Constructed in: 2008 Other: Developed as part of 35th Avenue Streetscape project</p> |
|---|--|

Figure 1 (Continued): Phoenix Art Bus Stops

| | |
|---|---|
|  | <p>City: Phoenix Location: Cricket Pavillion Artist: Joe Tyler Cost: \$34,000 Constructed in: 2005</p> |
|  | <p>City: Phoenix Location: Sky Harbor Airport Artist: Kevin S. Berry Cost: \$40,000 Constructed in: 2001</p> |
|  | <p>City: Phoenix Location: Baseline Road Artists: Mags Harries & Lajos Heder Cost: Unknown (constructed as part of larger Baseline Road streetscape project) Constructed in: 2005</p> |

MESA

Mesa has approximately 10 art shelters, many of which are along Main Street. Examples are provided in Figure 2.

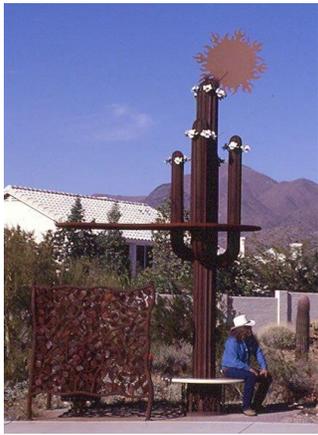
Figure 2: Mesa Art Bus Stops

| | |
|---|---|
|  | <p>City: Mesa Name: Rain Artist: Laurie Lundquist Location: Mesa Arts Center</p> |
|  | <p>City: Mesa Name: Mesa Oasis Artist: Joe Tyler Cost: \$35,000 Constructed in: 2004 Location: SEC of Southern & Dobson</p> |
|  | <p>City: Mesa Location: Mesa Community College Name: College Garden Station Artist: Joe Tyler Cost: \$35,000 Constructed in: 2005</p> |

SCOTTSDALE

Scottsdale has approximately 20 art bus shelters, many of which are located along the Scottsdale Road corridor between South Scottsdale to north of downtown, and along Shea Boulevard. Examples are provided in Figure 3.

Figure 3: Scottsdale Art Bus Stops

| | |
|---|--|
|  | <p>City: Scottsdale Location: Camelback Road Name: Wavelength Artist: Kevin S. Berry Cost: \$40,000 Other: There are several versions of this shelter, some of which do not have the front shade screens (see below).</p> |
|  | <p>City: Scottsdale Location: Scottsdale Road Name: Wavelength Artist: Kevin S. Berry Cost: \$40,000</p> |
|  | <p>City: Scottsdale Location: Shea Boulevard Name: Desert Moods Artist: Joe Tyler Constructed in: 1996 Cost: \$28,000</p> |
|  | <p>City: Scottsdale Location: Shea Boulevard Name: Sonoran Monsoon Artist: Joe Tyler Constructed in: 1996 Cost: \$30,000</p> |

TEMPE

Tempe has 21 art bus shelters. Several of these have been placed at high schools, and art teachers and students have been instrumental in the development of these stops. Examples are provided in Figure 4.

Figure 4: Tempe Art Bus Stops

| | |
|---|--|
|  | <p>City: Tempe Location: McClintoch High School Name: The Elements Cost: \$33,500 Constructed in: 2000</p> |
|  | <p>City: Tempe Location: Tempe High School Name: Come Together Artist: Joe Tyler Constructed in: 1995 Cost: \$14,000</p> |
|  | <p>City: Tempe Location: University Drive Name: Waiting on a Date Artist: Joe Tyler Cost: \$14,500 Constructed in: 1995</p> |

TUSCON

Tucson began developing Art Shelters in the late 1980s and since that time developed approximately 25 art bus shelters. However, now, to reduce maintenance costs, the city has discontinued the development of unique Art Bus Shelters. Instead, the city will install works of art at bus stops, but not as part of the shelter. Examples of Tucson’s existing Art Bus Shelters are provided in Figure 5.

Figure 5: Tucson Art Bus Stop

| | |
|---|---|
|  | <p>City: Tucson Location: South Park Avenue Cost: \$30,000 Constructed in: 1999</p> |
|  | <p>City: Tucson Location: Oak Flower neighborhood Name: Shade for Oak Flower Artist: Mary Lucking Cost: \$27,000 Constructed in: 2004</p> |
|  | <p>City: Tucson Location: Pima County Courthouse Name: Arbor Depot Artist: Joe Tyler Cost: \$17,000 Constructed in: 1998</p> |

SPECIAL PURPOSE BUS SHELTERS

In addition to one-of-a-kind art shelters where one of the most important objectives is to create a work of art, cities, transit systems, and private developers also develop a variety of “special purpose” shelters that often also include work of art. These shelters are usually more attractive and/or provide better facilities and amenities than standard bus shelters. Examples are for premium services such as light rail, Rapid Bus, and BRT, and where special stop facilities are desired as part of a streetscape or development project.

Special Purpose Shelters generally fall into one of two categories:

1. Custom shelters designed and constructed by developers as part of development projects. These are often one-of-a-kind designs that are intended to compliment the design of the development.
2. Unique designs intended to differentiate premium services from regular services. In most cases, these special purpose designs used in multiple locations.

PHOENIX

Phoenix typically requires developers to construct bus shelters to serve major developments. These shelters are designed and constructed by the developers, who also pay all costs. The first custom shelters were implemented along Central Avenue in the late 80’s early 90’s, and several office towers have included shelters that compliment their architecture (see Figure 6).

Figure 6: Phoenix Developer Constructed Stop

| | |
|---|--|
|  | <p>City: Phoenix Type: Developer constructed Location: NEC Thomas & Central Cost: Not Known Constructed in: Early 1990’s</p> |
|---|--|

In addition, Valley Metro has implemented a premium type of express bus service called Rapid Bus that provides better and more visible stop facilities than “regular” bus service. As shown in Figure 7, Rapid Bus stops are specially designed and include ticket machines, solar lighting, a “wave” bench, and canopy. To date, Phoenix has 14 Rapid Bus stops that use this design.

Figure 7: Phoenix Rapid Bus Stop

| | |
|---|---|
|  | <p>City: Phoenix Type: Rapid Bus Location: 14 locations served by Rapid Bus Cost: \$75,000 (includes ticket vending machines and solar lighting, but not installation) Constructed in: 2003</p> |
|---|---|

MESA

Mesa has constructed 26 Custom-BRT shelters along it’s LINK BRT that serves as an extension of METRO light rail service between the Sycamore light rail station and the new Power Road Transit Center. Most LINK stops have a standard design identifying them with LINK, and a unique feature is that a tree is installed the ends for shade (see Figure 8).

Figure 8: Mesa Special Purpose Stops

| | |
|---|--|
|  | <p>City: Mesa Type: BRT Station Location: Along LINK BRT line Cost: \$80,000 to \$100,000 (depending upon site specific variables) Constructed in: 2007-2008</p> |
|  | <p>City: Mesa Type: Main Street Streetscape Project Location: Main Street Cost: \$16,000 Constructed in: 2000-2003</p> |

In addition, Mesa also developed specially designed shelters for its 2000-2003 Main Street streetscape project. These shelters, which are also shown in Figure 8, were designed to include what was then the city’s logo.

SCOTTSDALE

Scottsdale has not developed specially designed bus stops that are mass produced for multiple locations. The closest that it has to specially designed shelters are variations of the “Wavelenth” shelter described in the previous section. These shelters share a unique look and provide similar amenities, but are all developed individually and are unique in some respects.

Scottsdale also has a number of developer installed bus shelters. As in Phoenix, these shelters are designed, installed, and constructed by developers as part of development projects. As illustrated in Figure 9, these range from very basic to very elaborate.

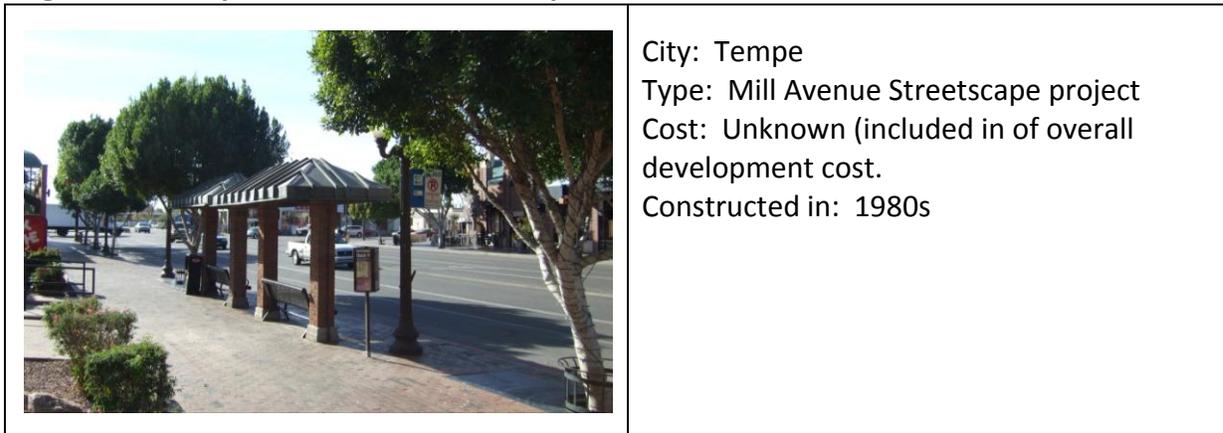
Figure 9: Scottsdale Developer Designed and Constructed Bus Shelters

| | |
|---|--|
|  | <p>City: Scottsdale Location: Scottsdale Road Cost: Unknown (paid by development as part of overall development cost.)</p> |
|  | <p>City: Scottsdale Location: Scottsdale Healthcare Artist: Kevin S. Berry Cost: \$30,000 Other: Privately developed as part of Scottsdale Healthcare project. Constructed in: early 2000s</p> |

TEMPE

Tempe developed custom bus shelters for its 1980s Mill Avenue Streetscape Project (see Figure 10). However, only two of these are still used as bus shelters, and those that are no longer used are scheduled to be removed.

Figure 10: Tempe Mill Avenue Streetscape Shelter



STANDARD BUS SHELTERS

Most bus shelters in the Valley are simple standardized designs that are mass produced and installed at the large majority of stops. This type of shelter is the most common type largely because they provide a basic level of convenience and shelter in a cost-effective manner.

Standard bus shelters can be considered to fall within one of two categories: those without advertising and those with advertising. Those without advertising are almost always purchase, installed, and maintained by the cities in which they are located or by the area’s transit system. Those with advertising are usually provided, installed, and maintained by advertising companies in return for the advertising revenues.

The benefit, and the appeal, of the use of advertising shelters is as simple as that it reduces public costs. However, there is often community opposition to the use of shelters for advertising, usually on aesthetic grounds and because they are seen as overly commercializing the public environment. Of the five cities surveyed, Phoenix and Tucson use advertising to defray costs, while Mesa, Scottsdale, and Tempe do not.

PHOENIX

Phoenix has approximately 2,400 stops with standard bus shelters: 1,400 without advertising and 1,000 with advertising. The stops with advertising include it either on one of the shelter’s end panels or on a free-standing kiosk (see Figure 11). The advertising shelters were purchased, installed, and are maintained by the advertising company, but

with ownership subsequently turned over to the city. (Note that these are the same shelters—both with and without advertising—that are used in Peoria.)

Figure 11: Phoenix Standard Bus Shelter

| | |
|---|--|
|  | <p>City: Phoenix Type: Without advertising Cost: \$5,000</p> |
|  | <p>City: Phoenix Type: With advertising inside shelter Cost to city: \$0</p> |
|  | <p>City: Phoenix Type: With advertising on free standing kiosk Cost to city: \$0</p> |

MESA, SCOTTSDALE, AND TEMPE

Mesa, Scottsdale and Tempe all currently use a similar standard non-advertising shelter, with slight differences in color, size, and other features. These shelters have metal-pitched roofs and metal columns (see Figure 12). The shelters also include flip benches, trash cans,

schedules, bus stop signs, and bike racks. In Scottsdale, this design is being used to replace older shelter types.

Figure 12: Mesa, Scottsdale, and Tempe Standard Shelters

| | |
|---|--|
|  | <p>City: Mesa Type: Without advertising Cost: \$15,000 w/ 1 bench); \$25,000 w/ 2 benches (including installation)</p> |
|  | <p>City: Scottsdale Type: Without advertising Cost: \$24,000 (including installation)</p> |
|  | <p>City: Tempe Type: Without advertising Cost: \$8,200 (not including installation)</p> |

Finally, and more recently, Mesa has been considering a new smaller shelter that could be used either at special locations or throughout the city. Designs have been developed (see Figure 13), but none have yet been constructed.

Figure 13: Potential New Mesa Standard Shelter

| | |
|---|---|
|  | <p>City: Mesa Type: Potential new design Location: To be determined Artist: Mary Lucking Cost: To be determined Constructed in: None to date</p> |
|---|---|

TUCSON

Tucson uses both advertising and non-advertising standard shelters. The non-advertising design was designed by an architect about 20 years ago and has proven to be distinctive, functional, and that have required little maintenance (see Figure 14).

Figure 14: Tucson Special Purpose Shelter

| | |
|---|---|
|  | <p>City: Tucson Type: Without advertising Cost: \$4,000 - \$6,000</p> |
|  | <p>City: Tucson Type: With advertising Cost to city: \$0 (or \$8,200 without advertising)</p> |

Tucson also uses advertising shelters that are purchased, installed, and maintained by an advertising company (ATA). For these shelters, the advertising company created a unique design for Tucson by incorporating a saguaro cactus into a standard bus shelter. Recently, the city has also started purchasing these shelters on its own and has begun installing them without advertising as an alternative to the older-style non-advertising shelters.

DESIGN/CONSTRUCTION COSTS

Design and construction costs vary greatly for different types of shelters and stop facilities. For the five peer cities, the lowest costs, not surprisingly, were for standard bus shelters. However, the highest costs were for special purpose stops such as Rapid Bus and BRT. Costs for Art Shelters fell in the middle:

Art Shelters: Capital costs for art bus shelters range widely generally depending upon how elaborate the stop is, and the examples cited in this document range from \$12,000 to \$60,000 (see Table 1). (However, note that many of the lower cost shelters were constructed in the 1990s.) Most of the art shelters were funded using “percent for the arts” funds.

Special Purpose Stops: Capital costs for special purpose bus shelters range widely (see Table 2). Those developed for Mesa’s Main Street streetscape project cost \$16,000 each (in 2000-2003). Recent stops developed for Rapid Bus and BRT services have been significantly more substantial and have ranged in cost from \$75,000 to \$100,000 per stop.

Standard Stops: Capital costs for standards stops range from \$0, for stops with advertising that are purchased, installed, and maintained by advertising companies, to \$25,000 for attractive stops with a modest level of amenities.

Table 1: Bus Shelter/Stop Capital Costs¹

| | Art Stops | Special Purpose | Standard |
|------------|---------------------|----------------------|---------------------|
| Phoenix | \$20,000 - \$60,000 | \$75,000 (Rapid Bus) | \$0 - \$5,000 |
| Mesa | \$25,000 - \$40,000 | \$16,000 - \$100,000 | \$15,000 - \$25,000 |
| Scottsdale | \$28,000 - \$48,000 | NA | \$24,000 |
| Tempe | \$12,000 - \$33,500 | Unknown | \$8,000 |
| Tucson | \$15,000 - \$30,000 | NA | \$4,000 - \$6,000 |

¹ Note that there are inconsistencies between costs, especially with respect to installation. Lower costs do not include installation, while higher costs usually do.

MAINTENANCE COSTS

As is the case, with capital costs, maintenance costs vary significantly. Also, the ways in which different cities handle bus stop maintenance vary widely:

Phoenix's total cost for routine maintenance of shelters is approximately \$1.8 million per year, or approximately \$1,300 per shelter. In addition, the city budgets \$60,000 per year for repair of all of its artwork, which includes the Art Bus Shelters.

Mesa budgets \$150,000 to \$200,000 for all shelters, including art shelters and BRT shelters, per year, or approximately \$700 to \$900 per shelter.

Tempe: Maintenance costs for Tempe's bus shelters were not available. However, costs for routine maintenance such as trash pickup and power washing is covered in the city's maintenance budget. Costs for repair of Art Bus Stops are covered through the city's art budget.

Scottsdale had originally planned to contract with an outside firm for bus stop maintenance at a cost of \$108,000 per year, or approximately \$540 per stop. Instead, the city decided to do the work internally, which requires one employee and a total budget of \$70,000 per year, or \$350 per stop.

Tucson contracts with ATA, which is the company that provides and maintains the advertising shelters, for all of its routine shelter maintenance. The cost is approximately \$550 per year per location. In addition, Tucson budgets an additional \$720 per year for each of its 25 art shelters.

Given the differences in how shelter maintenance is accounted for the by different communities, it is difficult to determine a precise annual maintenance costs by type of shelter. However, based on the information available, approximate ranges are as shown in Table 2.

Table 2: Maintenance Costs

| Shelter Type | Annual Cost |
|-------------------------------------|---|
| Art Bus Shelters | \$700 - \$1,200 |
| Special Purpose (Rapid Bus and BRT) | \$550 - \$1,200 |
| Standard | \$0 (w/advertising) - \$900 (w/o advertising) |

PROCESS FOR INCORPORATING ART

Cities use a variety of different processes for incorporating art into bus stops. For Art Bus Stops, the typical practice is to issue a Request for Proposals (RFP) that covers both the design, fabrication, and installation for each individual location. Special purpose stops that are part of larger projects—for example streetscape, Rapid Bus, and BRT projects—are

typically designed as part of the overall project, and then constructed as part of the overall project. Art is incorporated into standard stops as part of a new standard design for a community, or as in the case of Tucson, by modifying an existing design to include art.

OTHER FINDINGS

The five cities also provided additional advice and information based on their experience:

- Public reaction to art bus shelters is mostly positive, as they add a distinctive character to the areas where they are constructed.
- Vandalism is typically not a problem with art shelters as they are usually located in visible areas and are used daily.
- Many communities are using solar or LED lighting to reduce electric costs. In Tucson, thin film solar panels are being used on bus shelters in Tucson as opposed to thicker hard panels, which are more easily stolen.
- Standard materials should be used to reduce repair and replacements costs. In addition, all materials should be well documented.
- Standard materials that are high quality will last much longer than less expensive which will not have to be replaced as often.
- All shelter colors and materials should be well documented, especially for art bus shelters, to mitigate part replacement time.
- Rusted metal, which is a popular material for art shelters, needs to be coated to prevent it rubbing off on riders.
- Shelters should not be placed too close to lawn or irrigation sprinklers as any overspray would deteriorate the material.
- Water harvesting can be considered to cut down on the irrigation costs on much desired landscaping at bus shelters.

SUMMARY

As described above, other cities in the Valley, and Tucson, integrate artwork into their shelters in a number of ways, and these include one-of-a-kind art shelters, as well as art

elements in designs that are used in multiple locations. All of the cities that were surveyed have had very favorable reactions to the use of art at bus stops, especially among those who live and work in the areas served by art bus stops.

Costs and practices vary significantly. However, representative costs are as follows:

Capital Costs

| | |
|--------------------------|--|
| Art Bus Shelters | \$20,000 - \$60,000; \$40,000 is approximate 2010 cost |
| Special Purpose Shelters | |
| Rapid Bus & BRT | \$75,000 - \$100,000 |
| Other | \$10,000 - \$25,000 |
| Standard Bus Shelters | \$4,000 - \$25,000 (lower costs w/o installation; higher costs w/installation) |

Maintenance Costs (Annual)

| | |
|--------------------------|--|
| Art Bus Shelters | \$700 - \$1,200 |
| Special Purpose Shelters | \$700 - \$1,200 |
| Standard Bus Shelters | \$0 (with advertising) - \$900 (w/o advertising) |