



Adaptive Streets Implementation Design Guide

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The City of Tempe Adaptive Streets Project was funded in partnership with the Maricopa Association of Governments, and realized with the consulting team of Kimley Horn and Y2K Engineering.

Introduction to the Design Guide

1. Introduction

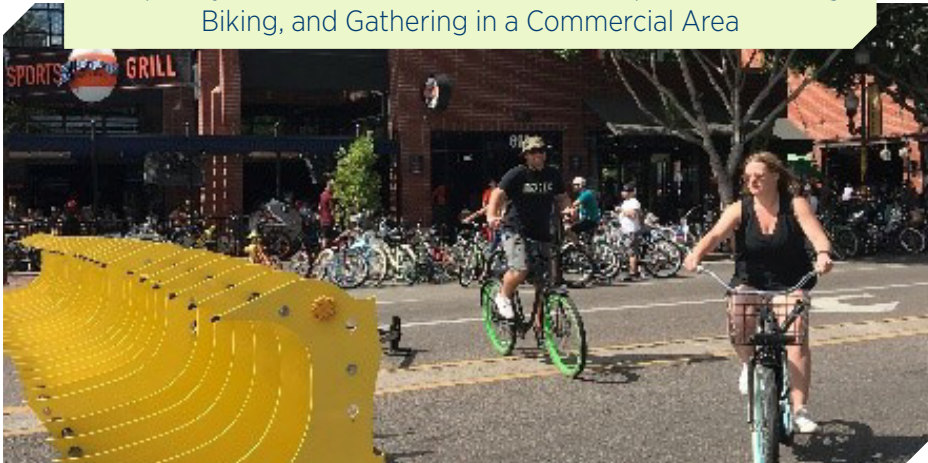
Purpose of the Adaptive Streets Implementation Design Guide

The Adaptive Street Implementation Design Guide provides the City of Tempe (City) with a suite of tools and processes that can allow the City to be responsive to rapid changes in the needs and demands of the City's roadways. The guide provides low-cost temporary solutions to adapt the public right-of-way (ROW), which includes sidewalks, curbs, roadways, medians, and intersections, to address changing mobility and community needs. Some examples of temporary needs that may trigger a call for adaptation are:

- Requests from a business for space to provide outdoor seating or retail.
- The need for amenity improvements at bus stops during summer months, such as more shade or cooler pavement.
- Desire from a neighborhood or community to bring attention to a crosswalk or their neighborhood park by adding a mural.

This guide will provide the City with references and strategies to leverage and consider new applications for the various portions of the ROW to meet the needs of all roadway users and the surrounding community.

Temporary Street Closure to Provide More Space for Walking, Biking, and Gathering in a Commercial Area



What is an Adaptive Street?

An adaptive street strategy is a change to the public ROW (*sidewalk, curb space, roadway, median*) that:

- is implemented temporarily and relatively quickly;
- includes a new feature that changes how some or all of the ROW is used;
- is location-specific in response to a community need.

Adaptive streets are not designed to enact permanent changes and are not a replacement for established City programs and processes for roadway construction and traffic management.

Temporary Bike Parking Provided in Parking Space



Temporary Seating, Shade, and Greenscape provided Within a Parking Space in a High-Pedestrian Area



Tempe's History with Temporary Street Adaptations

The City has a successful history of making temporary changes to the City ROW to accommodate mobility or community needs, as exemplified in the photos.

These cases are examples of temporary installments that adapted how all or a portion of the street was used. The City also has examples of how a temporary adaptive street strategy eventually lead to a permanent change to the ROW. The example in the photos show a location where the City used paint to create temporary curb extensions at the intersection to create an enhanced pedestrian environment in response to the high numbers of pedestrians using the intersection. Five years later, the success of the temporary adaptation lead the City to pursue a permanent version of the curb extensions as part of a redevelopment opportunity that was occurring at that intersection.

In all cases, these various adaptations occurred as one-time, individual efforts without a formal process. The Adaptive Streets Implementation Design Guide looks to formalize a process for the City to identify, design, review, and implement adaptive street projects that maintain the effectiveness of the City's roadway network while providing the opportunities to quickly address changing needs.

2016: Painted Curb Extensions



2021: Painted Curb Extensions Converted to Permanent Curbs as Part of Development



Why Adaptive Streets in Tempe?

While the City has been executing temporary adaptations to roadways for years, the trigger for pursuing a more formalized Adaptive Streets program occurred during the COVID-19 pandemic which triggered rapid and widespread changes in demands for our public spaces. Restaurants needed more space to allow for outdoor dining and accommodate social distancing. With the widespread shift to working from home, the demands of roadways changed as we saw far fewer people driving and significantly more people walking and biking. There were demands for expansion of public spaces for people to gather outside while maintaining social distancing.



These needs and shifts highlighted, in an extreme condition, the importance of having flexibility and the ability to be nimble and make quick changes to City roadways. The City realizes that there are circumstances beyond a public health crisis that may result in a need for these temporary and rapid response tactics, and this Adaptive Streets Implementation Design Guide provides that flexibility and nimbleness that community members and travelers often want or need.

How Adaptive Streets Fit Within Tempe’s Existing Plans and Frameworks

The concepts and strategies from the Adaptive Streets Implementation Design Guide build on and support the current frameworks and goals that the City has established in other major planning efforts and through adopted City policies.

The need to accommodate people using whatever mode of travel they select is a common thread throughout many of the City’s guiding plans. It is a central component for transportation-related planning efforts like the Transportation Master Plan and Neighborhood Traffic Calming Guide, and Tempe’s Vision Zero traffic safety policy that focuses on achieving

safety and achieving zero fatal or serious injury-crashes for all road users. The concept of creating a comprehensive network of mobility is also a fundamental part of allowing residents to age in place and be self-sufficient in their neighborhoods as highlighted in the 20-minute City and Age Friendly Community Initiative.

Adaptive Streets also provide a great opportunity for furthering non-transportation goals such as placemaking and community building through community gathering spaces and placemaking, highlighting an area’s unique character through the use of tools like street murals and wayfinding.

The existing City initiatives and plans that the Adaptive Street program could support or contribute to include:

- Vision Zero
- 20-Minute City
- Age Friendly City
- Transportation Master Plan
- Character Area Plans
- Climate Action Plan
- Innovation Hub Infrastructure Master Plan
- Urban Forestry Master Plan
- Neighborhood Traffic Calming Guide
- Neighborhood Traffic Calming Guide
- Mobility Hub Plan
- Arts and Cultural Plan
- Parks and Rec Master Plan
- Tempe General Plan

More information on each of these plans and efforts, and specifics on how adaptive streets can relate to them, can be found in the Summary of City Policies, Initiatives, and Plans.

Support for Adaptive Streets

Through a series of focus groups with city staff, businesses, developers, property owners, and residents, and additional city-wide public outreach, there is wide spread support for the concept of adaptive streets in Tempe.

The concept and intent of Adaptive Streets aligns with and can be a tool to support the City's goals and initiatives

"Climate action work is a good opportunity to point towards adaptive street strategies that can help the City envision a future with lower carbon transportation."

"There is a Council subcommittee looking at ways that the City will be able to manage the growth in all transportation needs as a result of this growth – adaptive streets might be a good tool for the toolbox."

There is desire among the community for solutions that focus on aesthetics and placemaking on Tempe's roadways

"We have proposed a neighborhood grant in the past for colorful, higher visibility crosswalks near a school. We would support any and all pilot applications of these types of adaptive strategies along this corridor to increase safety and community connections in the area."

"We would like shade and barriers between pedestrians and cars. Street accessible businesses, public spaces, and shopping areas designed for people not cars."

There is a need for a process and program that enables faster changes to be made to streets and does not duplicate or overlap other existing, established processes for making transportation changes

"Define a request and approval process and make sure that it does not take so long that it negates the intention of being a rapid response"

"Make sure the project defines specific use cases for adaptive streets – this should not duplicate or reinvent existing programs like those existing for block parties or neighborhood traffic calming."

2. How to Use the Design Guide

Adaptive Streets are meant to provide relatively quick and temporary solutions to some types of needs that arise on Tempe's roadways. As such, the process to pursue and eventually implement an adaptive street project will always start with a need that is identified by the community at a specific location.

1. Identifying a Need to be Addressed by Adaptive Streets

The two categories of overarching needs that may drive the implementation of an adaptive street might include:

- The need for an enhanced pedestrian environment along a roadway or at a specific location like an intersection or a transit stop.

This might include the need for placemaking or beautification, shade or greenscape, or greater awareness of a specific feature of a roadway (such as a crosswalk or a transit stop).

- The need for more space for a specific use within the ROW.

This might include the need for more dining space, more space for walking, more space for bicycling, more space for community gathering, or more space for retail.

There are also some needs for which adaptive streets are not an appropriate mechanism to address including:

- Safety or capacity needs that should be addressed by permanent changes to a street.

Adaptive Streets projects are intended to be temporary installations. A need that should be addressed through a permanent change to a street would be more appropriately addressed by the capital improvement process at the City.

- Neighborhood traffic mitigation needs.

The City recently updated its Neighborhood Traffic Calming Guide to provide residents with solution options and a process to pursue traffic calming measures in their neighborhood. The adaptive streets program does not replace this long established program.

- Special event-related street changes and restrictions.

Tempe has a long established process for implementing street closures or restrictions for special events. This includes events like downtown festivals and neighborhood block party processes.

Changes for these short duration special events that last a few hours to a few days are not the types of needs that are intended to be addressed by adaptive streets.

- Construction closures.

The City has long-standing processes and standards related to implementing and accommodating construction-related restrictions or closures to roadways. Adaptive streets are not intended to change or replace construction-related traffic control measures.

2. Identifying Adaptive Street Strategy Options Based on the Need

Based on the need for an adaptive street, this guide provides multiple strategy options that could help address the need based on consideration of other contextual factors of the location. These contextual factors include:

- Type of ROW available – are changes most appropriate for the sidewalk, roadway, intersection, or other pavement?
- Existing demands of the ROW – is the street a high-pedestrian area, a street with a lot of delivery trucks, a street with a high volume of bicycles, a street with a high-demand for parking?
- Surrounding land uses – is the area a residential area; a commercial area; an area that hosts frequent special events; is there a park or school nearby?

Each of these characteristics play into what type of adaptive street strategy will be most appropriate or most impactful to addressing the driving need. The adjacent matrix helps identify the type of adaptive street strategy options that are most appropriate to consider based on the available ROW at the location.

In the next section, more specific design guidance and considerations is provided for implementing each of these adaptive streets strategies.

Need	Adaptive Street Strategy	Available ROW			
		Sidewalk	Curb Space/ Parking Spaces	Roadway	Intersection
Enhanced Pedestrian Environment	Decorative Sidewalk (includes wayfinding, decorative sidewalks, and decorative transit stops)	■			
	Painted Pavement (includes curb space, mid-street mural, crosswalks, intersections, and cul-de-sacs)		■	■	■
	Temporary Curb Extension/ Bulb-Out		■	■	■
	Temporary Shade	■	■		
More Space for a Specific Use	Parklet (seating, shade, dining, community activities)		■		
	Alternative Curbside Use (temporary walking lane, biking lane, street-level dining)		■		
	Open Street			■	
	Temporary Transit Lane		■	■	■

3. Adaptive Streets Strategy Design Guidelines

This section provides detailed guidance and requirements for the different adaptive streets strategies that might be implemented in the City.

Each strategy sheet includes the following information:

- Strategy name.
- Example needs that the strategy may be appropriate to address.
- Location considerations for where strategy may be appropriate.
- Design Considerations.

Required – *elements of the adaptive street project that must be met for the project to be considered for further review by the City.*

Recommended – *elements that are desired by the City.*

Other considerations – *items to consider when identifying and designing an adaptive street strategy related to land uses, the existing transportation network, and alignment or guidance of other approved City plans or processes.*

- Example photos.

Tempe Adaptive Streets Strategy Options:

- Decorative Sidewalk (includes wayfinding, decorative sidewalks, and decorative transit stops) (p. 7 – 9)
- Painted Pavement (includes curb space, mid-street mural, crosswalks, intersections, and cul-de-sacs) (p. 10 – 13)
- Temporary Curb Extension/Bulb-Out (p. 14 – 16)
- Temporary Shade (p. 17 – 19)
- Parklet (seating, shade, dining, community activities) (p. 20 – 23)
- Alternative Curbside Use (temporary walking lane, biking lane, street-level dining) (p. 24 – 28)
- Open Street (p. 29 – 34)
- Temporary Transit Lane (p. 35 – 37)

Enhanced Pedestrian Environment: Decorative Sidewalks

Needs that could be addressed by this strategy: provide temporary wayfinding to attractions or exhibits in a pedestrian-focused area;

increase aesthetics and placemaking within a community or special use area; create an enhanced pedestrian environment at an intersection, transit stop, or sidewalk access point to a community amenity (ex: park, school); reduce heat impacts on sidewalks in high pedestrian areas.

Decorative sidewalks provide an opportunity to create a sense of place or identity for an area, identify or highlight unique features of the pedestrian realm, and provide valuable wayfinding for pedestrians. Painted or stick-on markers can be used to point pedestrians to key destinations and attractions within the area. Painted sidewalks provide opportunities to enhance and improve visibility in the pedestrian space and provide schools, neighborhoods, or business districts with a way to create enhanced and visually consistent community spaces. Painting projects can also be used to highlight important features or historic markers and events throughout the City.

Potentially Appropriate Locations

- May be considered on streets that are adjacent to community-oriented land uses (schools, parks, community centers, and unique attractions).
- May be considered within a business district or other compact area that is centered around a common theme/identity.
- Wayfinding should mainly be considered within a business district or other compact area that provides a variety of public amenities.
- 'Cool pavement' painting may be considered at and around transit stops or along highly-trafficked pedestrian corridors.
- Decorative sidewalk may be considered to accompany a temporary bulb-out, an alternative curbside use, or a parklet project.

Enhanced Intersection



Wayfinding



School Area Mural



Design Considerations

Required - General

- The sidewalk to be painted must be in good condition and free of damage, large cracks, or breaks. Paint may make it difficult for pedestrians to see cracks in the pavement and thus could lead to injury.
- Design should not impede a pedestrian's ability to see the edge of the sidewalk or curb. A clearly defined furniture zone, frontage zone, and clear path for pedestrians are required.
- Design cannot include insensitive language, images, or copyrighted materials (permission must be received for all artwork/imagery used).
- All imagery must be approved by the City and acceptable to the adjacent neighbors or property owner.
- Design can not infringe on existing ADA ramp colors. The color palette selected for the design must contrast with existing ADA ramp truncated dome slabs to maintain ADA visibility requirements.
- When selecting a paint/material, consider visibility, retroreflectivity, and the effect rain will have on traction for pedestrians.
- All proposed paint materials must be submitted to Tempe for approval. There must be no lead paint or other hazardous components.
- All materials used must be in compliance with all State and Federal regulations.
- Designs must include sufficient blank space (non-painted areas) to ensure adequate grip. Alternatively, the paint must have qualities or be applied in a manner that reduces slip hazard.
- During the installation of any artwork on the sidewalk, ADA accessibility must be maintained.
- Applicants must clean up and dispose of paint in an appropriate manner. Paint may not be disposed of in the City storm drains, City sewers, or waste containers.

Recommended

- Consider how the project will be viewed and what the experience of a pedestrian will be when walking over the artwork. Using repetitive patterns and solid background colors may help create a design that can be appreciated from multiple angles and distances.
- Consider tying the decorative sidewalk into the area by highlighting important local features or events.
- Consider using materials that can mitigate rising urban temperatures. "Cool pavements" come in a variety of forms, including a coating on surfaces that reduces heat affecting pedestrians.

Design Notes

Land Uses

- Identify areas where the community would like to emphasize walking and gathering, such as areas near schools, parks, or pedestrian-oriented business districts.
- Sidewalk decoration can help mark the transition into a specific character area, neighborhood, or district that wants to elevate the placemaking and showcase its unique culture and history.
- Community input and involvement are key to a successful application, ensuring the design is reflective of community values. At a minimum, engage people in a two-block distance around the proposed painting.
- If wayfinding applications are included, make sure to engage with the community and representatives for key destinations to make sure that wayfinding is located in areas that accurately depict the direction and distance to the desired destination.

Existing Configurations

- Evaluate the condition of the street and research if there are any planned resurfacing or other construction projects that may conflict with the implementation timeline.
- Most appropriate for areas where wayfinding is particularly beneficial (i.e. commercial districts and transit corridors).

Alignment with other Plans and Studies

- The use of painted sidewalks should conform with the surrounding character of the street as recommended in the Character Area Plan or consistent with changes in the character of the location.
- Special Districts identified in plans, including downtowns and other hubs, may leverage sidewalk painting to provide a visual queue and create visual consistency within the special district. Paint colors and designs should be selected accordingly.



Enhanced Pedestrian Environment: Painted Pavements

Needs that could be addressed by this strategy: Increase awareness and/or create enhanced pedestrian environments at intersections and crossings; improve aesthetics and placemaking within a community or a special use area.

Painted pavement includes mural projects on paved surfaces at street-level, such as intersections, crosswalks, and other roadway surfaces. They may be as large as an intersection or an entire block depending on the goal of the project and the surrounding land use context. Pavement painting may accompany other adaptive street strategies such as temporary bulb-out or temporary curbside management. Large, decorative paintings in the street can help add beauty and create community identity and placemaking.

Potentially Appropriate Locations

- The Streets must have a speed limit of 40 mph or less.
- Streets must have no more than four through travel lanes.
- Usually considered on streets where vehicles stop and then proceed with caution.
- Intersection paintings are usually considered in locations where there is an existing, stop-controlled intersection.
- Painted crosswalks may be considered at locations with a raised crosswalk, raised intersection, or location where a vehicle is already required to stop, either due to a stop sign or traffic signal, or pedestrian crossing.

Design Considerations

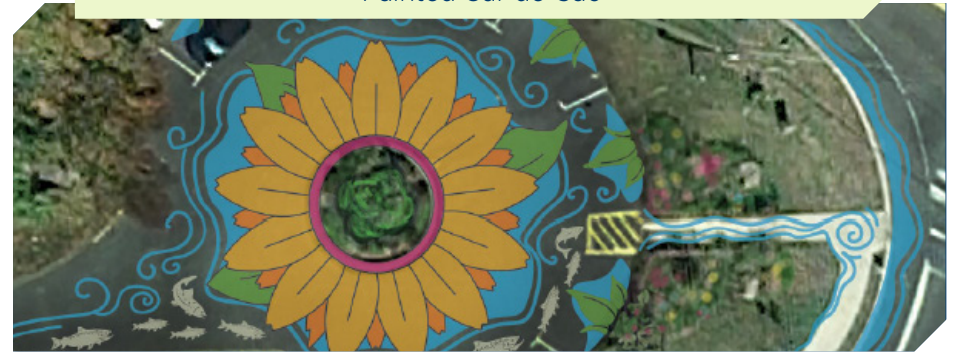
Required - General

- The pavement to be painted must be in good condition and free of potholes, large cracks, or breaks. Paint may make it difficult for pedestrians to see cracks in the pavement and thus could lead to injury.

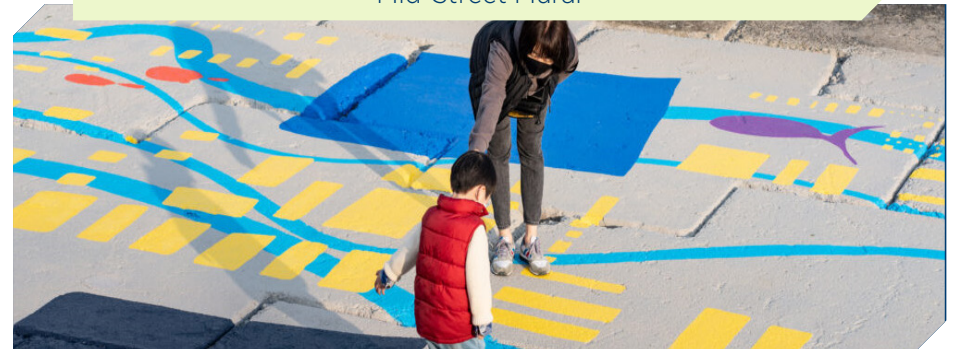
Painted Crosswalk



Painted Cul-de-Sac



Mid-Street Mural



Design Considerations (cont.)

Required - General

- Design can not infringe upon existing white or yellow existing street markings.
- Design cannot mimic official pavement markings or traffic control devices, such as stripes or traffic signs. Minimize the amount of yellow and white paint used to avoid looking like traffic control devices.
- Design cannot include words, logos, advertising, or insensitive images.
- Design cannot use copyrighted materials (permission must be received for all artwork/imagery used).
- All imagery must be approved by the City and accepted by the adjacent neighbors or property owners along the roadway.
- Only the pavement area can be painted for this application, not the curbs/gutters/sidewalks (see Decorative Sidewalk strategy sheet for information on painting sidewalks).
- Design cannot infringe on existing ADA ramp colors. The color palette selected for the design must contrast with existing ADA ramp truncated dome slabs to maintain ADA visibility requirements.
- When selecting a paint/material, visibility, reflectivity, and the effect rain will have on traction for vehicles, bicyclists, and pedestrians must be taken into consideration. Avoid creating a distraction for motorists.
 - All proposed paint materials must be submitted to Tempe for approval. There must be no lead paint or other hazardous components.
 - All materials used must comply with all State and Federal regulations.

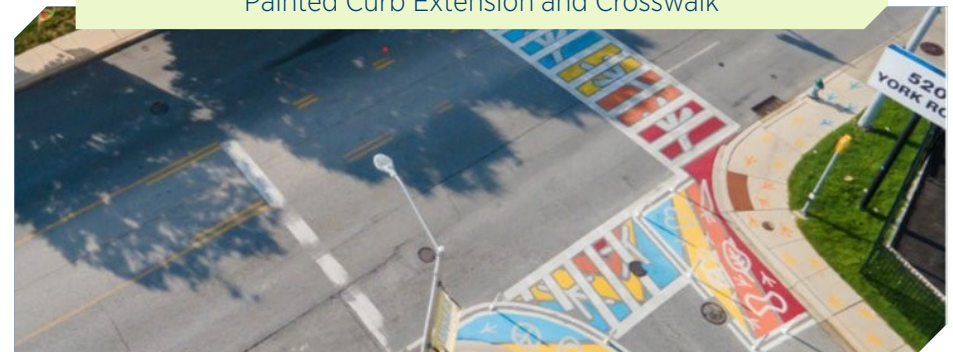
Painted Curbspace for Dining



Painted Intersection



Painted Curb Extension and Crosswalk



Design Considerations (cont.)

Required - General

- Designs must include sufficient blank space (non-painted areas) to ensure adequate roadway grip. Alternatively, the paint may be mixed with walnut shells or Shark Grip® to prevent a slip hazard.
- Applicants must obtain a barricading permit from the City (a \$25 refundable fee is required) and clean up and dispose of paint in an appropriate manner. Paint may not be disposed of in the City storm drains, City sewers or waste containers.

Required - Painted Crosswalks

- Must be at a location where there is already a marked crosswalk or a new location where a crosswalk is determined to be appropriate by the City Traffic Engineer.
- Design must include the two white horizontal markings with standard design and retroreflectivity to mark the edges of the crosswalk and ensure it meets minimum standards.
- Designs must not diminish the effectiveness of any legally required white transverse pavement markings used to establish the crosswalk.
 - Painted designs must occur within the white transverse crosswalk lines.
 - Subdued-colored aesthetic treatments between the legally marked transverse crosswalk lines are permissible provided that they are devoid of retroreflective properties.
- If more than one crosswalk has been identified for the intersection, artwork should have consistency of style and complementary colors to create a unified aesthetic at the intersection.

Required - Painted Curb Extensions/Bulb-outs

- Refer to 'Decorative Curb Extensions/Bulb Outs' strategy sheet for full strategy details beyond paint.

Required - Painted Curbside for Alternative Uses

- Refer to 'Alternative Curbside Uses' strategy sheet for full strategy details beyond paint.

Recommended

- Consider how the project will be viewed and what the experience of a pedestrian will be when walking over the mural. Consider how it will be viewed by a driver, or bicyclist. Using repetitive patterns and solid background colors may help create a design that can be appreciated from multiple angles and distances.
- Check to see if there are plans to resurface the street. Freshly paved areas will absorb more paint. Make sure to account for extra layers of paint if painting over a recently paved surface.
- Consider using paving materials that can mitigate rising urban temperatures. "Cool pavements" come in a variety of forms, including a coating on street surfaces that reduces heat affecting pedestrians.

Recommended (cont.)

- Consider how the project will be viewed and what the experience of a pedestrian will be when walking over the mural. Using repetitive patterns and solid background colors may help create a design that can be appreciated from multiple angles and distances.

Design Notes

Land Uses

- Identify areas for walking to school, walking dogs, going to the park, where the community would like to emphasize walking and gathering.
- Paint can help mark the transition into a specific character area, neighborhood, or district that wants to elevate the placemaking, showcase its unique culture and history, or just brightening up a roadway.
- Painted intersections may be applied at mid-block, upon approval of the City traffic engineer, to add public space.
- Community input and involvement are key to a successful application, ensuring the design is reflective of community values. At a minimum, engage people in a two-block distance around the proposed painting.

Existing Configurations

- Evaluate the condition of the street and research if there are any planned resurfacing or other construction projects that may conflict with the implementation timeline.
- When installed at the entrance to a residential or low speed street, a painted intersection can mark the transition to a slower speeds.
- Intersection or crosswalk murals should not be considered as a traffic control or traffic-calming device.
- Most appropriate along low-volume streets in conjunction with other traffic-calming methods.

Alignment with Other Plans and Studies

- The use of painted intersections should conform with the surrounding character of the street as recommended in the Character Area Plan or consistent with changes in the character of the location.
- Special Districts identified in plans, including downtowns and other hubs, may leverage pavement painting to provide a visual queue and create visual consistency within the special district. Paint colors and designs should be selected accordingly.

Enhanced Pedestrian Environment: Decorative Curb Extensions/Bulb Outs

Example needs: shorter crossing distances at an intersection or other crossing; increased awareness of crossings; more space for pedestrians or bicyclists to wait to cross the road.

Curb extensions help improve the pedestrian environment at an intersection or designated crossing by increasing the overall visibility of pedestrians waiting to cross the street, shortening crossing distances, and physically narrowing the roadway. Decorative curb extensions can also provide opportunities for place-making and adding space for temporary green-scape/vegetation elements.

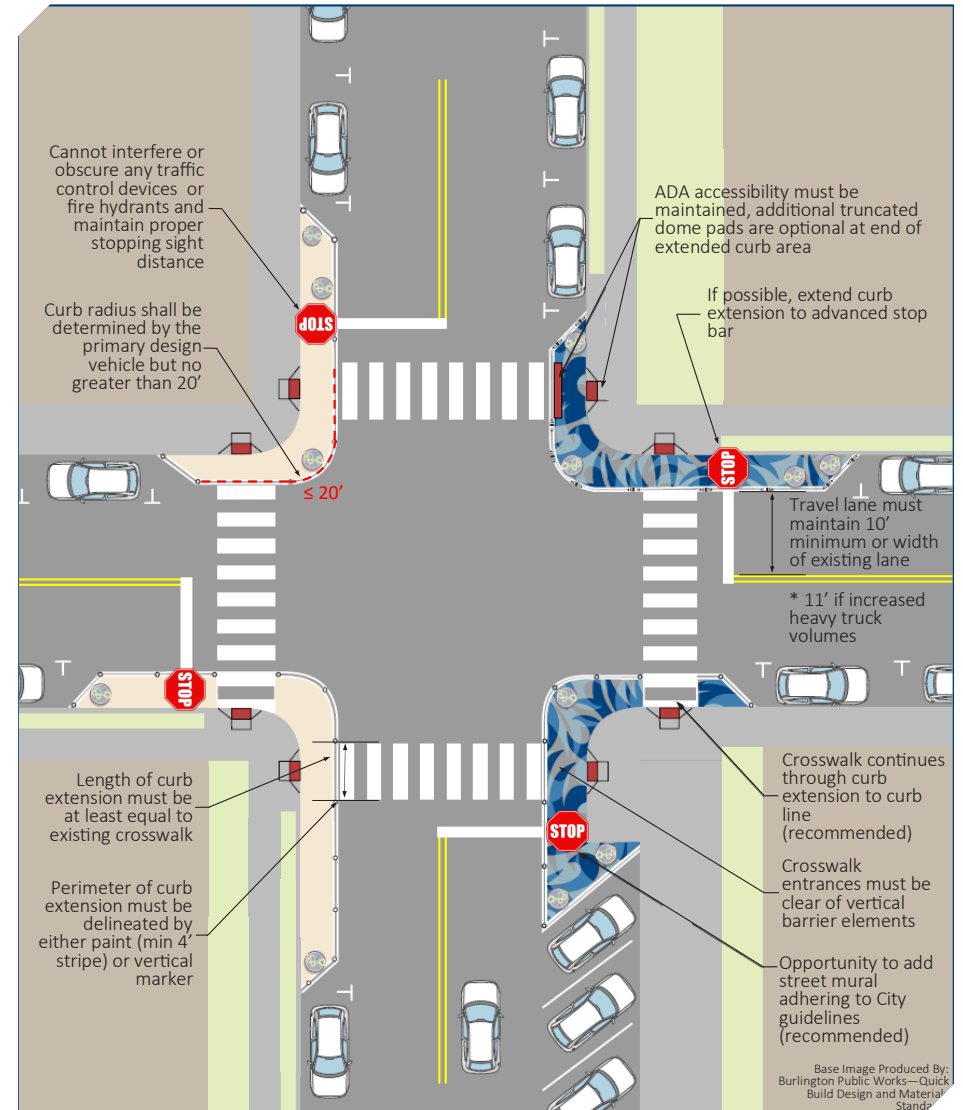
Potentially Appropriate Locations

- Streets with speed limits less than 40 mph.
- Intersection or mid-block crossing locations that have existing crosswalks.
- Streets that have high levels of pedestrian crossing activity, such as downtown, near schools, near parks, etc.
- Streets that have existing parallel or angled parking.

Design Considerations

Required

- Must maintain a minimum 10-foot-wide travel lane, or the width of the existing lane. 11-foot lanes should be provided for streets with high truck volumes.
- The length of the curb extension must be at least equal to the width of the existing crosswalk (i.e. if the existing crosswalk is 10-foot wide, the curb extension must be a minimum 10-feet long).
- The perimeter of the curb extension must be delineated by either a painted white stripe that is at least four-inches wide or a vertical marker; consider offsetting vertical markers from the perimeter of the curb extension by 12 inches to reduce protrusion into the travel lane.



Design Considerations (cont.)

Required

- Curb radius should be determined by the primary design vehicle but should be no more than 20 feet.
- Must not interfere or obscure any traffic control devices or signs (stop signs, pedestrian crossing signs).
- Stop signs must be placed in advance of the crossing; consider moving traffic control signs to inside of the curb extension to maintain visibility.
- If installed near a fire hydrant, the design must maintain access to the hydrant.
- If a curb extension is being installed mid-block, where a pedestrian ramp is not present, a temporary ADA compliant ramp will need to be installed.
- If vertical barriers are included, must maintain proper sight distance at intersections, per the [City's Intersection Sight Distance Requirements](#).
- Must maintain adequate drainage and gutters along the length of the curb extension.
- ADA requirements for clear path and slopes must be followed.
- If painted mural will be included, the street art must comply with the guidance for 'Painted Pavements' in the Adaptive Street Design Guide.

Recommended

- Consider if vertical barriers should be included to separate vehicles (parked or moving) from the curb extension. In some cases, planters can also function as barrier elements.
- While the maximum curb radius allowed is 20 feet, a smaller curb radii is recommended where possible.
- Crosswalk crossing bars should be extended through the curb extension to the curb line.

- If possible, extend the curb extension to 20 feet in advance of the advanced stop bar to deter parking in a noparking zone
- Curb extensions can provide an opportunity to add a street mural.

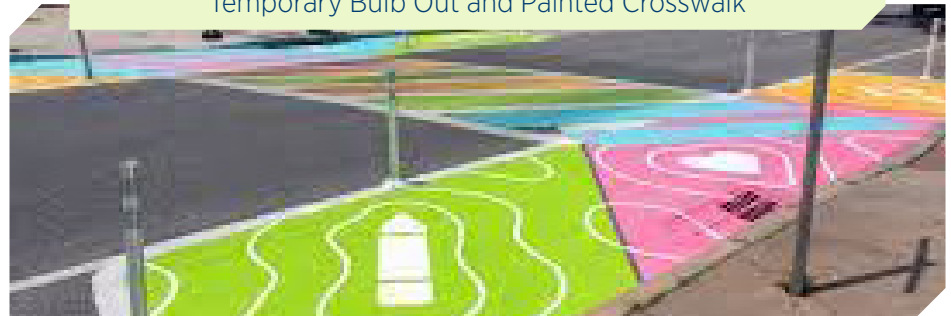
Planter to Create Bulb Out



Temporary Curb Extension Using Paint



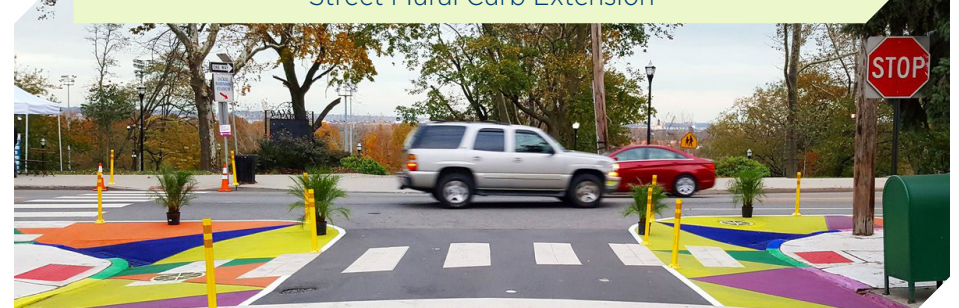
Temporary Bulb Out and Painted Crosswalk



Planter Boxes Creating Safe Waiting Area for Pedestrians



Street Mural Curb Extension



Design Notes

Land Uses

- Can be used on residential or commercial streets but recommended for streets with land uses that attract high amounts of walking, such as near parks, schools, or other pedestrian-oriented uses.
- This application should not be considered where there are high volumes of large vehicles making turns.
- Curb extensions may be applied at mid-block to add public space.

Existing Configurations

- When applied to streets with bikeways, curb extensions should not infringe upon the designated cycling space.
- When installed at the entrance to a residential or low-speed street, a curb extension can mark the transition to slower speeds.

Alignment with other Plans and Studies

- The use of curb extensions should conform with the surrounding character of the street as recommended in the Character Area Plan or consistent with changes in the character of the location.

Enhanced Pedestrian Environment: Temporary Shade

Needs that could be addressed by this strategy: More shade along walkways, within civic spaces, or near pedestrian transit stops

Providing shade along streets decreases urban heat, provides resting areas for pedestrians and people waiting for transit and increases the comfort and walkability of corridors. Shade structures might include movable planters with trees, non-flammable canvas/sails, awnings, or vertical panels. Shade may complement other cooling strategies to maximize thermal comfort. The shade application must be easily installed and removed to be considered temporary.

Potentially Appropriate Locations

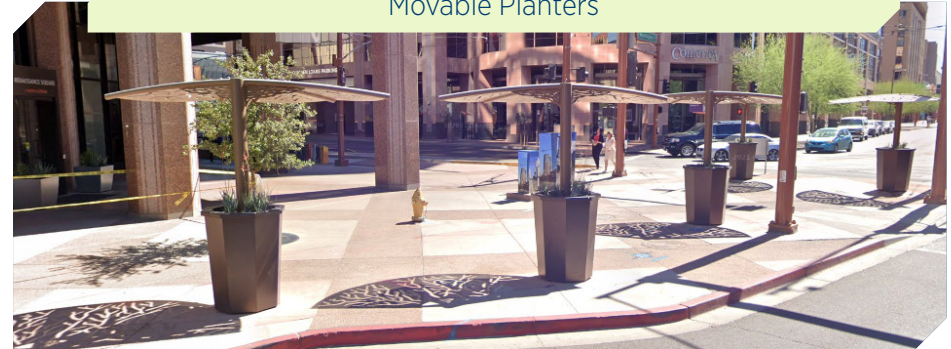
- May be considered in areas with transit stops
- May be considered at intersections with high pedestrian crossings
- May be considered in commercial areas or City-owned parking lots with high pedestrian traffic

Design Considerations

Required

- Must maintain a continuous five-foot minimum pedestrian comfort zone (the primary, accessible pathway that runs parallel to the street) that meets ADA guidelines for public rights of way. In areas with high pedestrian volumes such as a downtown or commercial area, this should be between eight and 12 feet.
- Placement of shade structure must maintain a minimum two-foot distance from either edge of the sidewalk. Pedestrians require a shy distance from fixed objects, such as building faces and parked cars that are adjacent to a sidewalk.

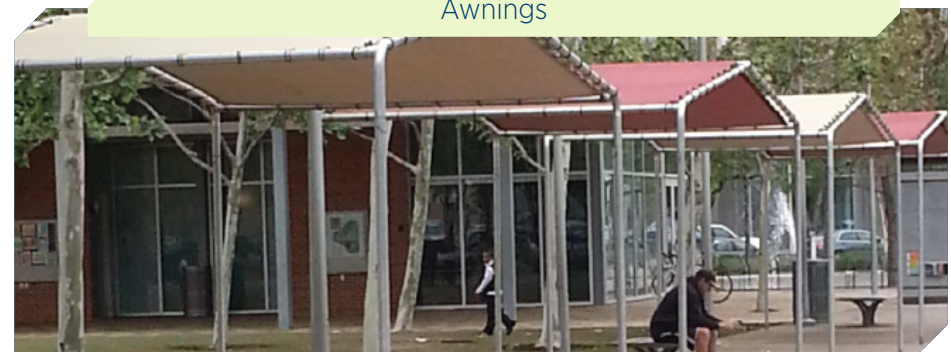
Movable Planters



Canvas/Sails



Awnings



Design Considerations (cont.)

Required

- Shade structures or canopies must not interfere with or obscure any traffic control devices (traffic signal, signs) and must maintain proper sight distance at intersections, per the [City's Intersection Sight Distance Requirements](#).
- Shade canopies must provide a minimum vertical clearance of 80 inches from the sidewalk.
- Must maintain access for curbside uses like parked vehicles and loading/unloading.
- Must be structurally sound and not compromise the integrity of the sidewalk or curb on which it resides.
- Must be adequately secured to the ground.
- Shade materials must be non-flammable.
- Conforms to local building code.
- Structures having an area greater than 400 square feet require a permit and approval from the Tempe Fire, Medical and Rescue Department.

Recommended

- Use [MAG Design Principles for Shade](#) to identify the orientation that maximizes shading for hottest times of the day and year (2-6 pm, May through October). Consider the shade patterns of existing infrastructure (including buildings) to determine the appropriate design and placement of the temporary shade structure.
- The desired minimum pedestrian comfort zone is 8-feet when the sidewalk is directly adjacent to moving traffic.
- Select materials that decrease heat absorption and abide by LEED-ND three-year solar reflectance value of at least 0.28. Avoid using highly reflective materials that will redirect light on pedestrian pathways as it adds to thermal discomfort.

Design Notes

Land Uses

- Prioritize shade on neighborhood walks that serve as critical pathways for essential life activities (e.g., commuting to work, school, daycare, and grocery) for people more vulnerable to heat.
- Consider when people use the space and select designs that prioritize shade during times of use.
- Consider volumes of pedestrian traffic in determining how much shade to provide.

Design Notes (cont.)

Existing Configurations

- East-West streets may need the most additional shade elements to provide effective shade early and late in the day. Placement that maximizes shade over pedestrian walkways may result in asymmetrical treatment of streetscape elements. Vertical shading elements can take advantage of steep early morning and late afternoon sun angles to provide effective long shadows.

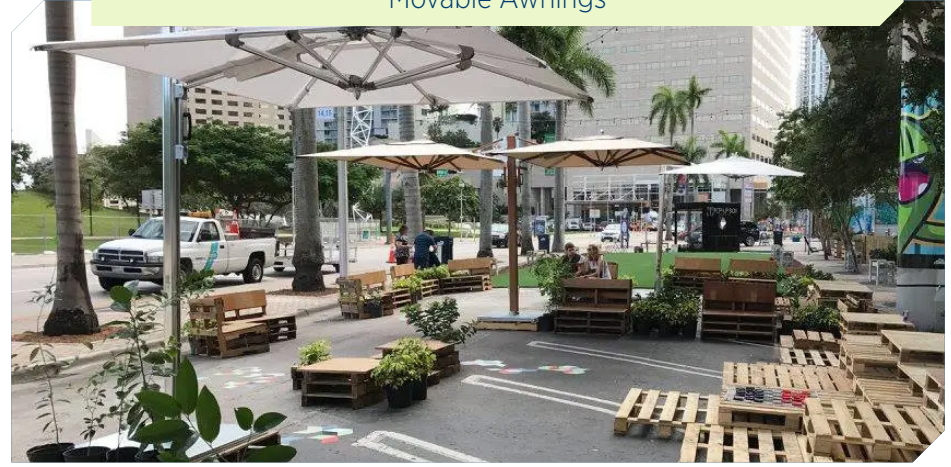
Alignment with other Plans and Studies

- Use of movable planters with trees should align with the Tempe Urban Forestry Master Plan.
- Shade elements should be consistent with the relevant Character Area Plan or consistent with changes in the character of the location and the City's Climate Action Plan.

Parklet for Temporary Shade



Movable Awnings



More Space for Specific Uses: Parklets

Needs that could be addressed by this strategy: Providing additional dining space, public seating, activities, shade, bike parking, and various other temporary public amenities

Parklets are sidewalk-level platforms, typically the size of one or two parking spots, that convert curbside parking, traffic triangles, repurposed travel lanes, or public parking lots into usable public space. Parklets often incorporate seating, greenery, shade, activities, dining, and/or bike racks and accommodate unmet demand for public space or amenities along commercial corridors or those with heavy foot traffic.

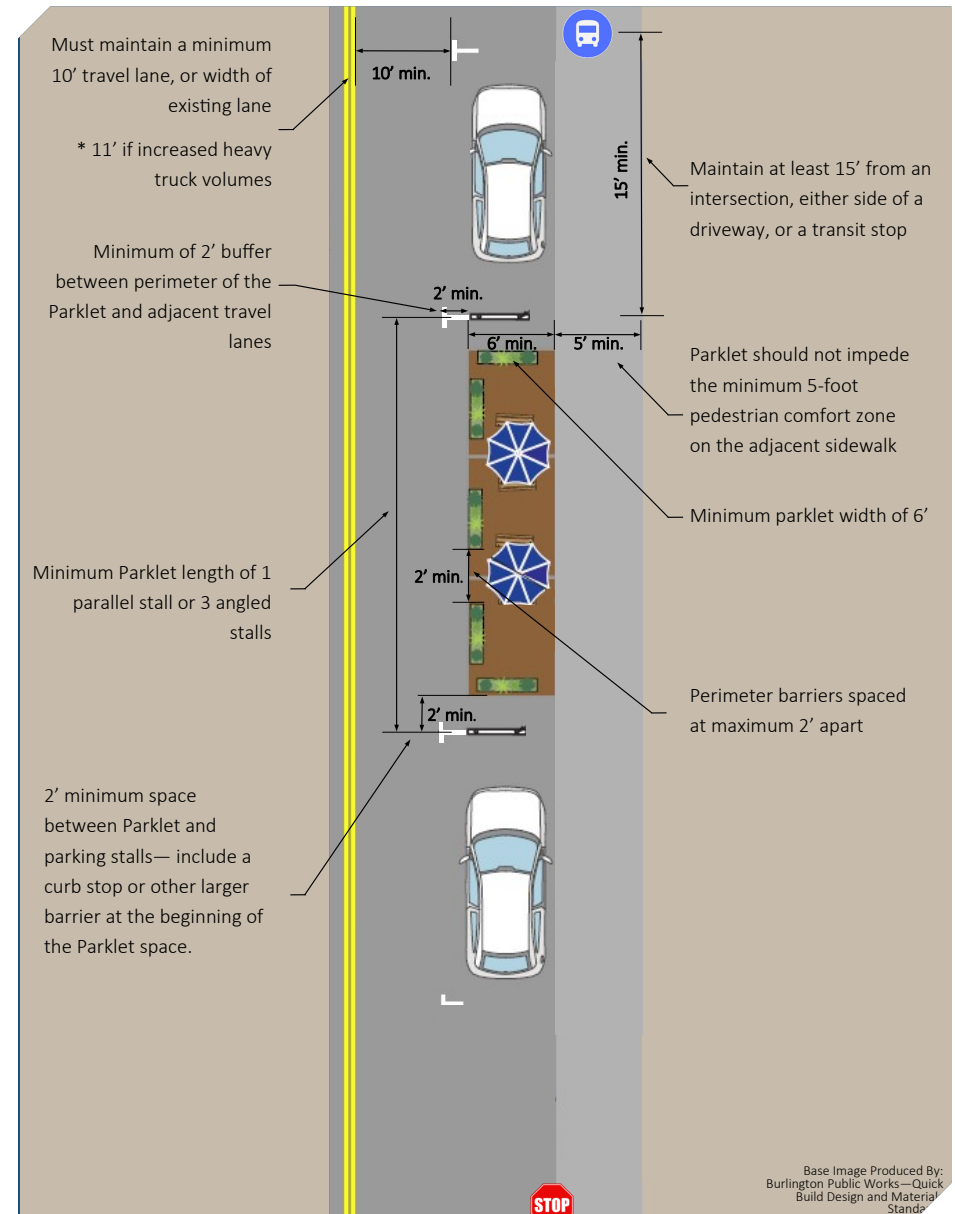
Potentially Appropriate Locations

- Street must have a speed limit of less than 40 mph.
- Must have on-street parking or enough curb space to allow the street to maintain at least one travel lane in each direction.
- Streets that are primarily for commercial/business use are good candidates, as are low-speed residential streets.

Design Considerations

Required

- Must maintain a 10-foot-wide vehicle travel lane in each direction, or the width of the existing lane. 11-foot lanes should be provided for streets with high truck volumes.
- Must provide a minimum two-foot buffer between the perimeter of the parklet and the adjacent travel lanes.
- The minimum parklet length is one standard parking space in a parallel parking lane or three standard spaces for angled parking (minimum parklet width is six feet).

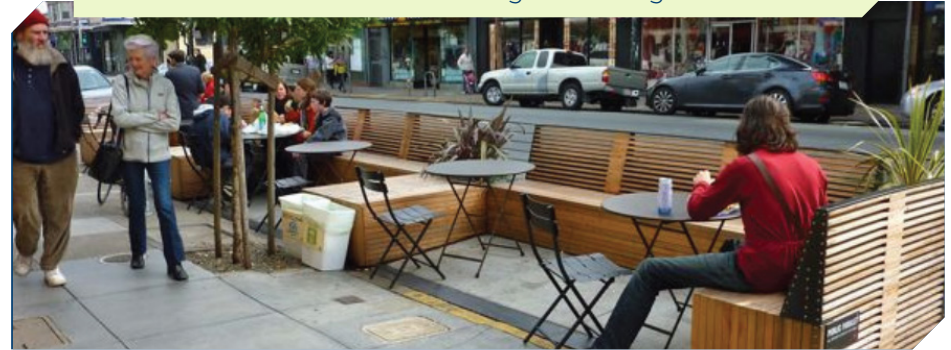


Design Considerations (cont.)

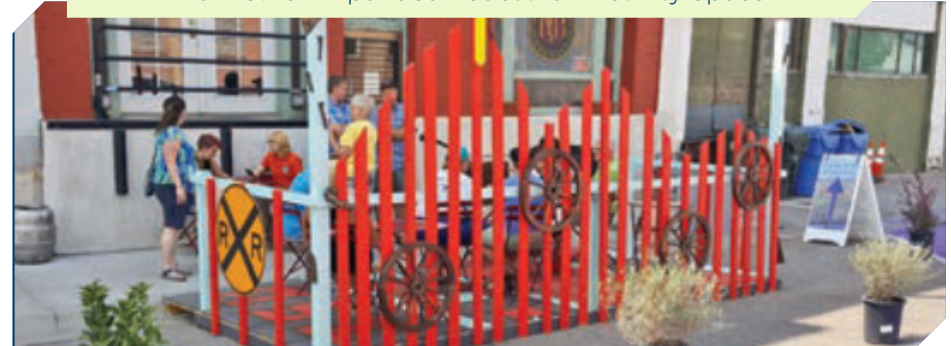
Required

- Must provide a minimum two-foot buffer and include a curb stop or other larger barrier to separate the parklet and adjacent upstream or downstream parking stalls.
- If the parklet does not have a built-in vertical perimeter, installation must include a vertical barrier along the perimeter to make it visible to traffic.
- Perimeter barriers may be continuous or may be spaced apart, with a two-foot maximum space between vertical barriers.
- Must not encroach on the continuous five-foot minimum pedestrian comfort zone (the primary, accessible pathway that runs parallel to the street) on the adjacent sidewalk. In areas with high pedestrian volumes such as a downtown or commercial area, this should be between eight and 12 feet.
- Must not interfere with an existing (permanent) bike lane unless design includes expansion of an existing bike facility; all bicycle lanes must be a minimum of five feet wide.
- Must not interfere with, or obscure any traffic control devices (traffic signal, signs) and maintain proper sight distance at intersections, per the [City's Intersection Sight Distance Requirements](#).
- Minimum three-foot clearance must be maintained around fire hydrants.
- Must not cover a manhole or other utility access.
- Must not block the flow to gutters, thus maintaining adequate drainage along the length of the parklet.
- If ADA parking spaces are impacted, an acceptable alternative, as deemed by the City, must be provided to maintain ADA parking options.

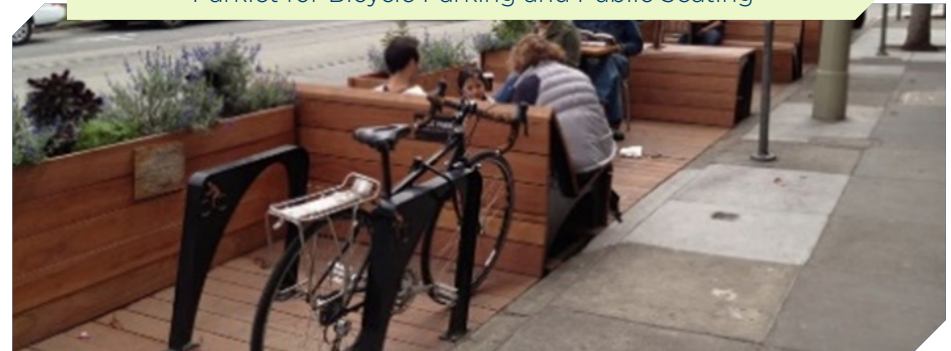
Parklet for Seating and Dining



Parklet for Expanded Pedestrian Activity Space



Parklet for Bicycle Parking and Public Seating



Design Considerations (cont.)

Required

- Must not interfere with access to private property outside of the community-approved project area (e.g. other private driveways, adjacent business loading zones)
- Must not impede solid waste (garbage/recycling) operations.
- Must be at least 15 feet from an intersection, driveway, or transit stop.
- Must maintain sidewalk's existing ADA compatibility measures (ADA ramps, sidewalk clear zones, etc.) and must maintain ADA compliance for parklet amenities and furnishings. This may include installing a temporary ADA compliant ramp to access the parklet, maintaining a level platform with no cross slopes, using ADA compliant materials, and positioning furniture in an ADA compliant layout.
- Any shade or other parklet amenity materials must be non-flammable.
- On-going maintenance of the parklet must be provided to maintain its safe use for the public.

Recommended

- The desired minimum pedestrian comfort zone is 8-feet when the sidewalk is directly adjacent to moving traffic.
- Parklets may include seating, lighting, greenery/planters, bicycle racks or other features, but should always strive to be a focal point for the community and a welcoming public gathering space.
- Bicycle parking may be incorporated into or provided adjacent to the parklet.
- Provide signage to help avoid confusion about the purpose of the installation – denote if the space is public or specific to an establishment.

Design Notes

Land Uses

- High visibility from inside adjacent businesses
- Surrounding land uses that already support and generate pedestrian activity
- Near existing shade and lighting
- Commonly include commercial, high-density residential and mixed-use areas.

Design Notes (cont.)

Existing Configurations

- Ensure that access to transit stops is maintained or relocated (with prior approval). Transit stops relocated beyond 500 feet of the existing transit stop require approval by the City Traffic Engineer or his/her designee.
- Can be accommodated within a parallel or angled parking, curbside roadway space, public parking, or traffic triangles
- Cannot be located within any areas currently marked or signed as a passenger or commercial loading zone, no stopping anytime, or an accessible parking zone unless accommodations for those uses can be provided.
- Appropriate accommodations must be taken so the location of the parklet does not interfere with routine waste collection and delivery services.

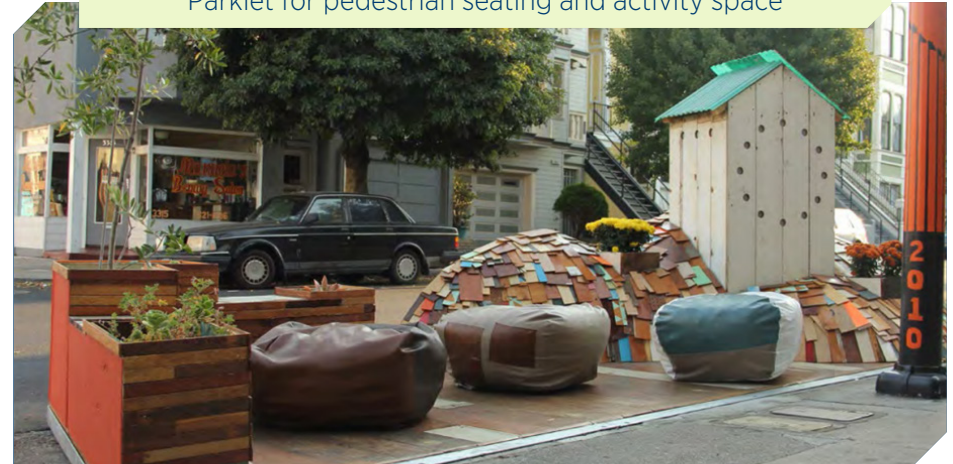
Alignment with other Plans and Studies

- Any parklet installation that may involve the sale of alcohol must follow the Extension of Premise process for the City
- All landscaping elements must follow guidelines outlined in Tempe's Urban Forestry Guide
- The use of parklets should conform with the surrounding character of the street as recommended in the Character Area Plan or consistent with changes in the character of the location.

Parklet for dining



Parklet for pedestrian seating and activity space



More Space for Specific Uses: Alternative Curbside Uses

Needs that could be addressed by this strategy: provide more space or more contiguous facilities to bike, walk, or roll; provide more space for dining, retail, or other community uses; maintain bike or pedestrian space during sidewalk construction

Temporarily convert on-street parking spaces or street-level curbside space, such as a wide shoulder, to provide additional space for other mobility or community uses, including walking, biking, dining, retail, or other community uses. The alternative use should be physically separated from adjacent vehicle lanes by physical temporary barriers or delineated by paint.

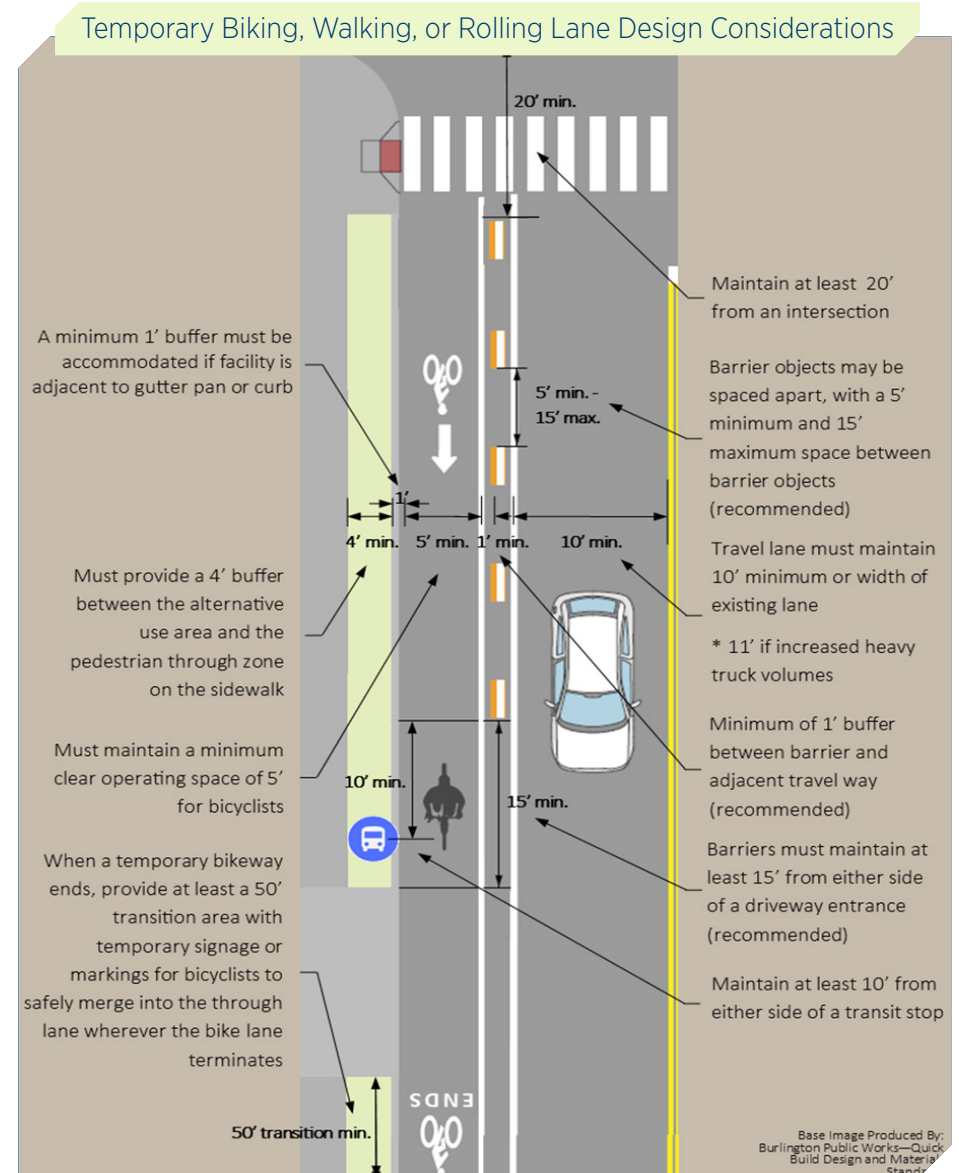
Potentially Appropriate Locations

- Street must have a speed limit of less than 40 mph.
- Must have on-street parking or be wide enough from curb-to-curb to add in curbside use while maintaining the existing cross section of the roadway.
- Streets that are primarily commercial/business use are good candidates for using curbside space for retail and dining space of ding space options.

Design Considerations

Required - General

- Must maintain a 10-foot-wide vehicle travel lane in each direction, or the width of the existing lane. 11-foot lanes should be provided for streets with high truck volumes.
- Must provide a four-foot buffer between the alternative use area and the main pedestrian comfort zone (the primary, accessible pathway on the sidewalk that runs parallel to the street).
- Must not interfere with an existing (permanent) bike lane unless design includes expansion of an existing bike facility; all bicycle lanes must be a minimum of five feet wide.



Design Considerations (cont.)

Required - General

- If ADA parking spaces are impacted, an acceptable alternative that is approved by the City must be provided to maintain ADA parking options.
- Must not interfere with access to private property (e.g. other private driveways, adjacent business loading zones) outside of the community-approved project area for the alternative curbside use
- Must not interfere with or obscure any traffic control devices (traffic signal, signs) and maintain proper site distance at intersections, per the [City's Intersection Sight Distance Requirements](#)
- If the alternative curb use lane includes the use of continuous vertical barriers, the installation:
 - Must not impede solid waste (garbage/recycling) operations
 - Must be free of barriers starting 20 feet from an intersection and 15 feet from either side of a driveway entrance or transit stop

Required - Bicycle and Walking Space

- Must maintain a clear and flat operating space for bicyclists that is a minimum of 5-feet wide.
- Must provide a minimum one-foot buffer between the edge of the bicycle lane and the curb and gutter.
- If a two-way bicycle facility is being considered, it must be at least 12 feet wide.
- When a temporary bikeway ends, provide at least a 50-foot transition area with temporary signage or markings for bicyclists to safely merge into the through lane wherever the bike lane terminates

Barrier Protected Walkway



Pop Up Bike Lane



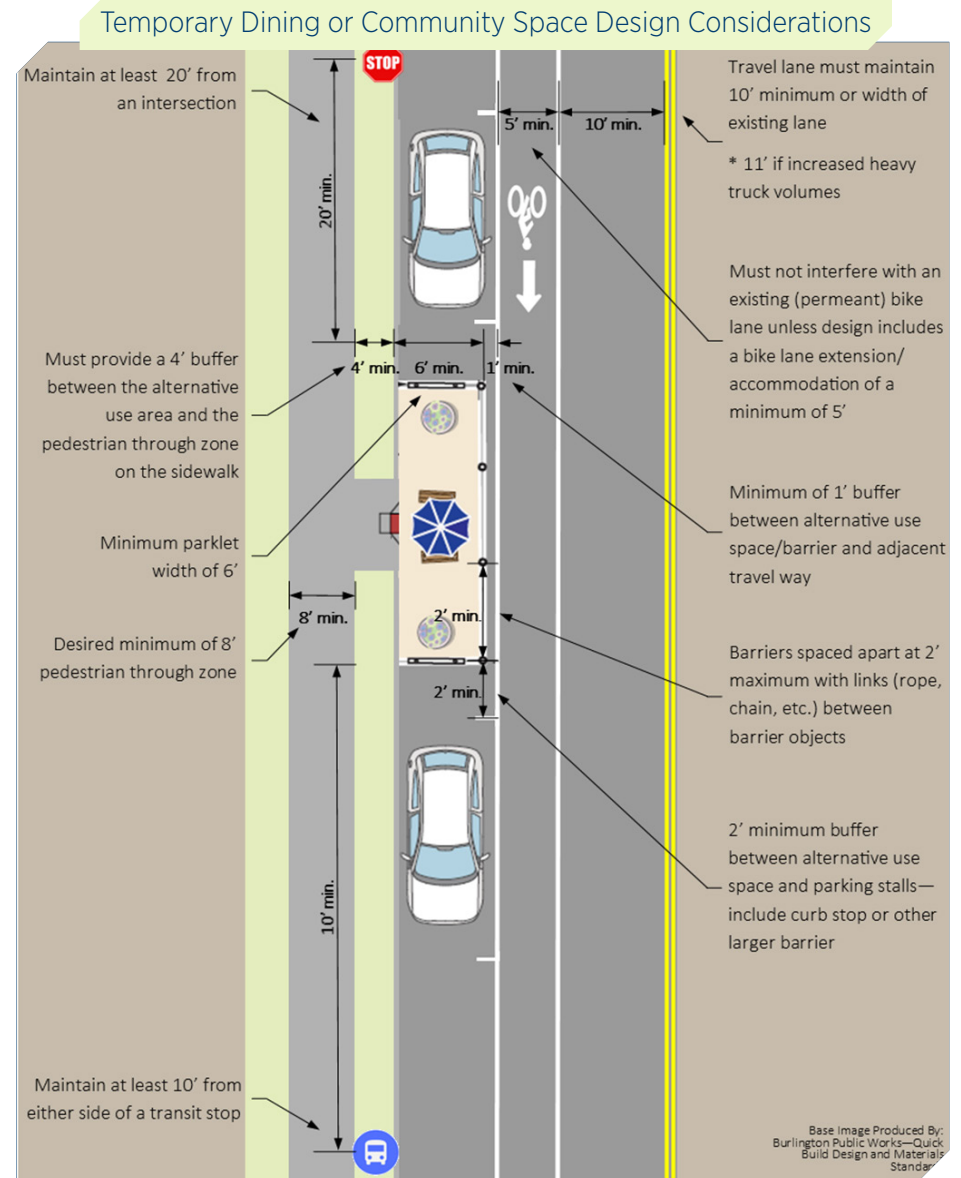
Temporary Protected Bike Lane



Design Considerations (cont.)

Required - Dining, Retail, and Other Community Space

- Uses that involve pedestrians using the temporary curb space in a static manner (sitting, standing) must use a vertical marker (examples might be planters, traffic cones, delineators, plastic jersey barriers, or other barriers that are approved by the City) to separate alternative curb use from the adjacent travel lane. The substantially of the marker should reflect the traffic volumes and speeds of the adjacent vehicular traffic.
 - There must be at least one foot of clearance between a vertical marker and the adjacent travel lane
 - Vertical markers should have no more than two feet of space between each marker; if markers are spaced apart, they must be linked by rope, bungee cords, chains, tape, or some other similar item.
- If closing a portion of the roadway that was previously used for vehicle travel, must use a larger barrier to end-cap the lane in the direction of on-coming traffic.
- A minimum three-foot clearance must be maintained around fire hydrants
- A minimum of two feet should separate the alternative use space from any upstream or downstream adjacent parking spaces
- Must not encroach on the continuous five-foot minimum pedestrian comfort zone on the sidewalk. In areas with high pedestrian volumes such as a downtown or commercial area, this should be between 8 and 12 feet.
- Amenities within the curb space should not cover a manhole or other utility access.



Design Considerations (cont.)

Required - Dining, Retail, and Other Community Space

- Must maintain existing ADA compatibility measures (ADA ramps, sidewalk clear zones, etc.) to access the curb space and within the curb space. This may require installing a temporary ADA compliant ramp to access the curbside use space, using ADA compliant materials, and positioning furniture of other furnishings in an ADA compliant layout.
- A plan for storage and deployment of equipment for the alternative use space must be provided to ensure pedestrian, bike, and vehicular access in off-hours (to maintain ample pedestrian access).

Recommended

- If using the curb space to provide a temporary walking or biking lane, consider including vertical markers to separate the lane from adjacent travel lanes.
- Vertical markers for temporary bicycling, walking or rolling lanes should be spaced a minimum 5-feet apart and a maximum 15-feet apart.
- Must provide at least one-foot of space between the marker and the adjacent travel lane.
- The alternative curb use can be enhanced by painting the curb space.
- See 'Painted Pavement' strategy sheet for full details on painting requirements and recommendations.
- Consider sign placements to assist in wayfinding.
- Use temporary signs, such as Park Here/Walk Here or Bike Here/Walk Here signs.
- Use typical temporary lane control signs (Lane Closed Ahead, Right Lane Ends, or local equivalent) ahead of a lane closure.
- Place signs on movable barriers at beginning of the temporary alternative use space.
- Do not block pedestrian and bike lanes with signage.

Design Notes

Land Uses

- Consider volumes of pedestrian traffic in determining how much space to provide in the alternative use space.
 - Make sure that if any queue is expected to form on the sidewalk to account for the additional space needed to accommodate the minimum five-foot pedestrian comfort zone (should be eight to 12 feet in areas with high pedestrian volumes such as downtown or a commercial area).
- Consider alternative/new delivery protocols for restaurants based on hours of operation, overall access.

Design Notes (cont.)

Land Uses

- In areas that have restaurant clusters, a ‘dining street’ may be designated.
 - Establish clear occupancy standards (e.g. table counts) for ‘dining street’ zones.
- Consider temporary curb uses for biking or walking in areas within proximity to highly used shared-use paths, parks, or community space to support connectivity.

Existing Configurations

- May be a good application for areas with underutilized space along the edge of curb (e.g. underutilized on-street parking, very wide roads).
- Look for opportunities to create a temporary solution for pedestrian and dining space during an ongoing construction project that restricts normal sidewalk functions.
- Consider and accommodate for the impacts of parking, access/loading zones, and community concerns.

Alignment with Other Plans and Studies

- Any alternative curbside use that may involve the sale of alcohol must follow the Extension of Premise process for the City.
- Uses and design decisions should align with the surrounding character of the street as recommended in the Character Area Plan or consistent with changes in the character of the location.
- Use of moveable planters as barricades should align with the Tempe Urban Forestry Plan.

Temporary Dining



Public Activity Use



More Space for Specific Uses: Temporary Transit Lanes

Needs that could be addressed by this strategy: provide dedicated or enhanced space for transit; provide dedicated space for transit stops so they do not impede the travel lanes; improve transit travel time or reduce impacts of congestion on transit

Note: Temporary Transit Lanes will only be initiated by the City, in coordination with Valley Metro and other appropriate transit agencies.

Temporary Transit Lanes convert on-street parking spaces or street-level curbside spaces to provide a dedicated lane for transit vehicles. The transit lane may be delineated using temporary striping, paint, or temporary vertical barriers such as cones or delineators. The application of a temporary transit lane should look to increase transit ridership by improving transit travel times, improving the passenger experience, and elevating overall perceptions of riding transit.

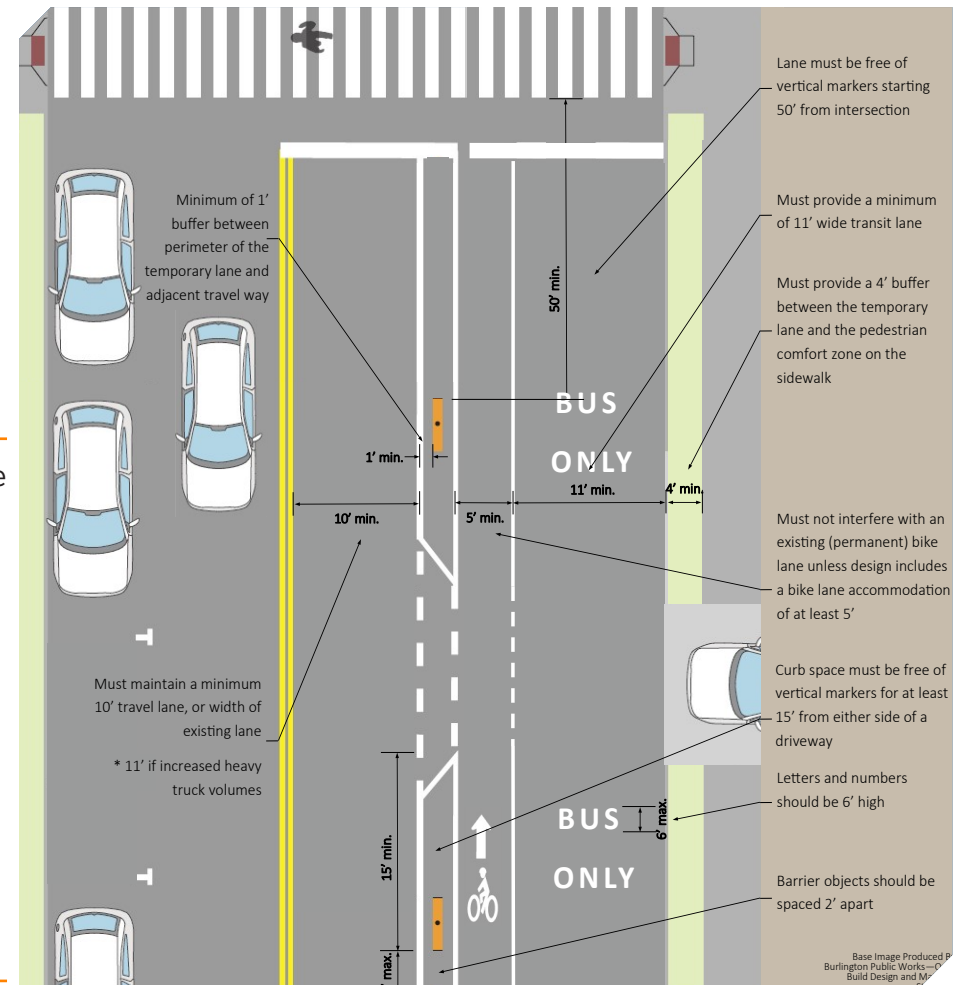
Potentially Appropriate Locations

- Streets that have on-street parking or sufficient space adjacent to the curb to maintain at least one vehicle travel lane in each direction in addition to temporary transit lane.
- May be considered on arterial roadways that are designated by an approved plan for high-capacity or high-efficiency transit operations.
- Consider areas that experience heavy congestion or “pinch points” that would degrade transit operations.
- Consider bus stops locations where there are consistently high levels of boarding/deboarding that create delays for traffic.
- May be considered for only one direction along a roadway if that is deemed to best support the overall transportation goals of the corridor.

Design Considerations

Required

- Temporary bus lanes must be at least 11-feet wide.
- Must maintain at least one 10-foot-wide travel lane in both directions, or the width of the existing lane; maintain 11-foot lanes if there is higher truck volume along the street.



Design Considerations (cont.)

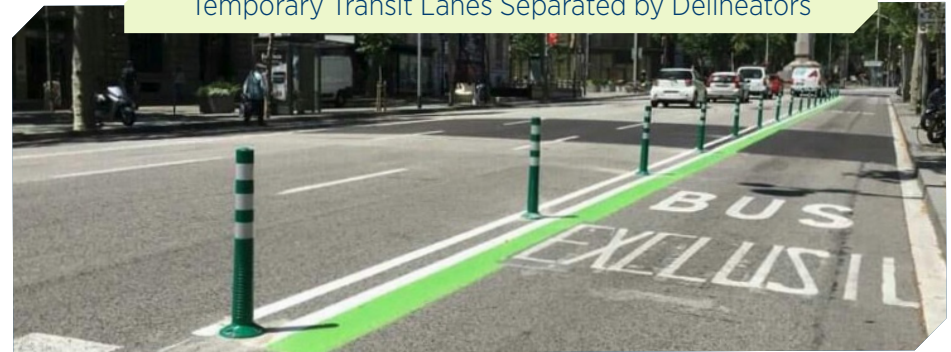
Required

- Length of the transit lane should be at least one block long and no longer than 2-miles
- Must be able to provide a minimum four-foot buffer between the transit lane and the pedestrian comfort zone on the sidewalk.
- Must not interfere with an existing (permanent) bike lane unless design includes a bike lane accommodation of at least five feet.
- Must maintain ADA parking requirements
- Must not interfere with access to private priority (e.g. other private driveways, adjacent business loading zones) outside of the approved area for the temporary transit lane
- The space must be delineated by either temporary barriers, pavement markings, or red paint (or a combination). The type of delineation should be selected based on the proposed location and proposed operations for the transit lane. Consider the following:

Temporary Transit Lanes Accomplished by Adapting Curbside Parking Spaces



Temporary Transit Lanes Separated by Delineators



Type of Delineation	When to consider
Cones/temporary barriers	<ul style="list-style-type: none"> ■ When the transit lane will be operational 24/7 ■ When the transit lane will occupy space normally used for parking or bicycle facilities (meaning re-striping or painting are not an option) ■ When high compliance rates with the dedicated lane is essential for safety or efficiency
Red paint (must be in conjunction with temporary signage and striping)	<ul style="list-style-type: none"> ■ When the transit lane will be operational 24/7 ■ When the transit lane will occupy space normally used for parking or bicycle facilities (meaning re-striping or painting are not an option) ■ When high compliance rates with the dedicated lane is essential for safety or efficiency
Temporary signage and striping (white)	<ul style="list-style-type: none"> ■ When the transit lane will be operational 24/7 ■ When vertical barriers are not suitable due to the nature of the transit lane operations (only active during certain times of the day, or where buses may need to deviate from the dedicated lane) ■ When red paint is deemed unsuitable or undesirable

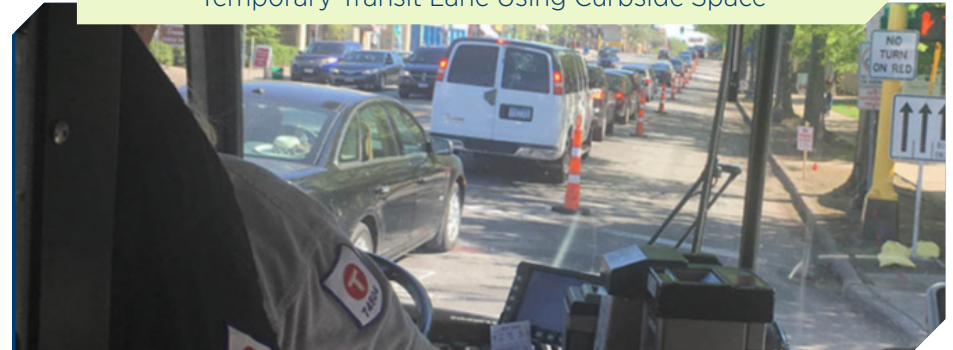
- If cones or vertical barriers are used to delineate the temporary lane:
 - The lane must be free of barriers starting 50 feet from an intersection and at least 15 feet from either side of a driveway.
 - Barriers should be spaced no further than two-feet apart.
 - Must provide at least one-foot of buffer between the perimeter of the temporary lane or barrier and the adjacent travel lane.
- White striping and “bus only” markings must follow standard treatment listed in the MUTCD:
 - Word, symbol, and arrow markings shall be white, except as otherwise noted.
 - Letters and numerals should be a maximum height of six feet.
 - Word and symbol markings should not exceed three lines of information; if more than one line of information is included, it should read in the direction of travel.
 - The longitudinal space between word or symbol message markings should be at least four times the height of the characters for low-speed roads, but not more than ten times the height of the characters in any conditions.

-
- Red paint to delineate the temporary transit lane must follow the following FHWA experimental guidelines:
 - Must be approved by the FHWA Office of Transportation Operations.
 - Must include standard pavement markings described above. Red-colored pavement shall not be used in lieu of those pavement markings that are required to designate a preferential lane.
 - Must be installed for the entire width of the transit lane and for the entire length of the transit lane, except where non-transit vehicles are permitted to enter the transit lane in advance of a turning movement or for other authorized purposes. Red-colored pavement should be used in a broken pattern where non-transit vehicles are permitted to enter the transit lane under these conditions.
 - Red-colored pavement must follow the daytime chromaticity coordinates. There are no night-time requirements.
 - There must be clear hours of operation (24/7, weekdays only, peak-hour only, etc.) for the temporary transit lane that are communicated by signage. Hours of operation should generally match the times during which transit rider throughput is high and/or congestion-related transit delays are a problem.
 - If cones or other barriers need to be moved periodically, a maintenance plan and specific staff responsibilities must be agreed upon before the implementation of the temporary lane.
 - Applications of temporary transit lanes will need an accompanying plan for enforcement, in partnership with Tempe Police.
 - The permitted users of the temporary transit lanes (if users other than transit vehicles are permitted) must be communicated by signage. Other uses that may be permitted may include bicyclists, delivery vehicles during certain times of the day, school buses, or other users as approved by the City.
 - If right-turning vehicles are permitted to enter the temporary transit lane at intersections, vertical barriers (if present) must be removed at least 50-feet before the intersection.
 - If right-turning vehicles are permitted to enter the temporary transit lane at intersections, solid transit lane striping should drop to dashed 50-feet before the intersection.
 - If right-turning vehicles are permitted to enter the temporary transit lane at intersections but the transit lane continues across the intersection, 'Bus Only' signage and markings must be provided on the receiving side of the intersection.
 - Bicycles should only be permitted to use a temporary transit lane if no other bicycling facility is provided on the roadway, transit headways are at least 5 minutes long, and transit operating speeds are 25 mph or less.

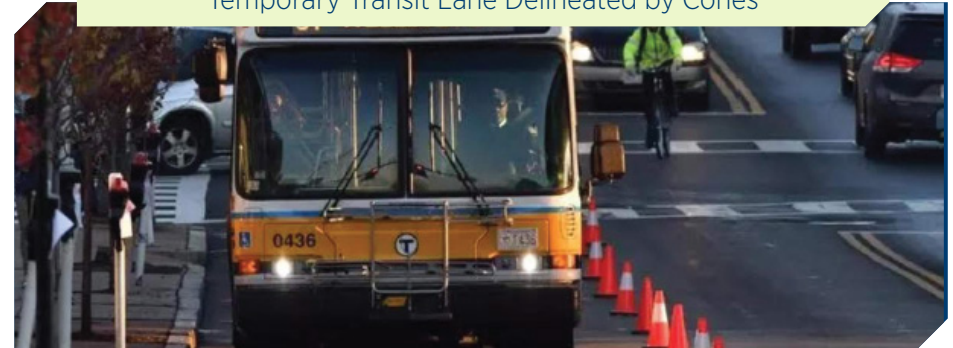
Recommended

- Consider accompanying any striping or paint with signage (in addition to applications where signage is required, as indicated in the previous section).
- Place signs on movable barriers at beginning of the temporary transit lane and at any point where there is a break in the continuity of the transit lane, such as intersections.
- Do not block pedestrian facilities, sidewalks, or bike lanes with signage.
- Consider if the temporary transit lane extension markings will be used to extend a transit lane across an intersection.
- Lane extension markings must conform to Section 3B.08 of the 2009 MUTCD.
- Red-colored pavement may be installed between these lines as a supplement to the lines. Red-colored pavement shall not be used instead of dotted lane extension markings to extend a transit lane across an intersection.
- Red-colored pavement may be installed for the entire length of the transit lane extension or only a portion (or portions) of the transit lane extension.
- If used between dotted lane extension lines through an intersection, the pattern of the red-colored pavement shall be dotted in a manner that matches the pattern of the dotted lines, thus filling in only the areas that are directly between a pair of dotted line segments that are on opposite sides of the transit lane extension.
- Consider installing temporary shade in pedestrian waiting areas if shade does not exist.
- Must maintain at least one 10-foot-wide travel lane in both directions, or the width of the existing lane; maintain 11-foot lanes if there is higher truck volume along the street.
- Length of the transit lane should be at least one block long and no longer than two miles.

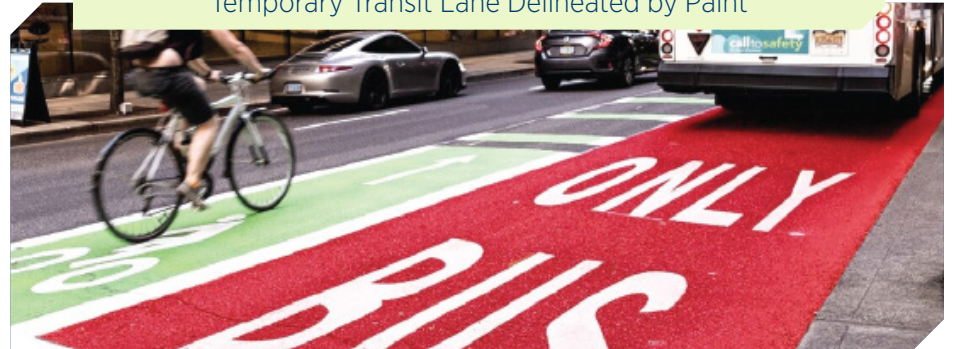
Temporary Transit Lane Using Curbside Space



Temporary Transit Lane Delineated by Cones



Temporary Transit Lane Delineated by Paint



Design Notes

Land Uses

- Because bus stops are typically located directly on the adjacent sidewalk, stops must leave enough room to accommodate the minimum 5-foot pedestrian through zone (should be eight to 12 feet in areas with high pedestrian volumes such as downtown or a commercial area) among waiting passengers.
- Consider alternative/new delivery protocols for restaurants based on hours of operation and overall access.

Existing Configurations

- Maybe a good application for areas with underutilized space along the edge of the curb (e.g. underutilized on-street parking, excessively wide roads).
- Consider and accommodate for the impacts of temporary transit lanes on parking, access/loading zones, and other community concerns.
- If vehicle right-turn volumes are high enough for right-turn queues to occur with regularity, right turns should be accommodated separately from transit in a turn pocket.
- Where driver compliance is very low, permitting right turns from the transit lane may sometimes be safer than prohibiting turns.
- Wider sidewalks, especially those buffered with plantings or furnishings, increase pedestrian safety and comfort adjacent to curbside transit lanes.

Alignment with other Plans and Studies

- Applications of temporary transit lanes will need to be planned and implemented in partnership with Valley Metro.
- Any application of temporary transit lanes should be consistent with approved plans related to the transit network and transit operations for both the City and Valley Metro.
- Uses and design decisions should align with the surrounding character of the street as recommended in the Character Area Plan or consistent with changes in the character of the location.

More Space for Specific Uses: Open Streets

Needs that could be addressed by this strategy: Community gathering space for areas that are lacking large plazas or parks. Open streets can also serve as an opportunity for businesses to expand to the street creating an outdoor market or dining experience. Portions of the ROW can also accommodate walking and rolling.

The concept of an Open Street is that a stretch of roadway, or a portion of the roadway, is closed to vehicle through-traffic, allowing the ROW to be used for non-motorized travel, public gathering, open-air market space, or business and dining. Open streets provide expanded space for people to walk, bike, play, and gather, especially for neighborhoods and communities that lack plazas parks or other public gathering spaces.

Potentially Appropriate Locations

- Open Streets should only be implemented along neighborhood/local streets
- Open Streets should not impede emergency access routes for hospitals or other emergency operations
- Consider locations near public parks, heavy dining/retail corridors, or other community amenities, especially those that attract a high volume of pedestrians
- Open Streets should be supported by multimodal transportation infrastructure such as bike lanes, a strong sidewalk network, and transit routes

Community Gathering



Dining Areas



Activity Areas



Design Considerations

Required

- Open Streets should consider guidance from the Neighborhood Traffic Calming Guide.
- At either end of the Open Street, provide a City-approved barrier that will restrict regular traffic from entering the street but is moveable for emergency access. These might include decorated jersey barriers, temporary planters, delineators, or other approved barriers. Consider barriers that are most appropriate (size, style, color) for the surrounding context.
- Must obtain a barricading permit from the City (a \$25 refundable fee is required).
- The barrier position must maintain ADA access and accommodations for sidewalks, crossings, and other roadway amenities.
- The Open Street must maintain a 15-foot wide lane for emergency vehicles and solid waste pickup that is clear of obstructions.
- The Open Street must maintain any residential on-street parking that is normally permitted or provide an alternative parking location.
- Provide signage warning of street closure and detour routes to drivers at a minimum of one block before the Open Street.
- Maintain clear sidewalks that are free of obstructions along open street.
- Provide temporary ADA ramps from the sidewalk to the open street at a mid-block location to allow entry to street-level while using a mobility device.
- Open street applications must be equitable for all users

Recommended

- In commercial areas, provide a loading zone for deliveries if the street being temporarily closed does not have alley access or a secondary access point.
- Provide additional bike parking to encourage bicyclists to park in a location that does not block or obstruct the Open Street or its entrances.
- Consider providing community amenities within the open street depending on the community needs and surrounding land use contexts. These might include tables and chairs, movable planters, temporary shade, or other placemaking amenities.

Design Notes

Land Uses

- Open Streets are best suited for neighborhoods that are lacking public gathering spaces. The temporary closure of the roadway allows for a street to serve as a public space.
- Open Streets are compatible with both residential and commercial districts.

Existing Configurations

- Open streets should not inhibit an existing bicycle facility unless there is an equally good alternative provided adjacent to the temporary open street.
- Locations for temporary open streets should have a good surrounding roadway network that can accommodate traffic that must detour when the road is temporarily restricted.

Alignment with other Plans and Studies

- The Neighborhood Traffic Calming Guide includes discussions about closing a roadway to support neighborhood traffic mitigation. Temporary open streets should consider that guidance in terms of locations that might be good candidates for temporary open streets.



4. Implementation Guidance

The Adaptive Streets Implementation Design Guide provides details on requirements and expectations for the design of an adaptive streets projects to ensure the project maintains City standards and the integrity of the public ROW. In addition to the Design Guide, an **Adaptive Streets Application Guidebook** is also available and describes the application process for Adaptive Street Project within the City to walk through the process of assembling and submitting a successful Adaptive Streets project application.

Application Process

To pursue an Adaptive Streets project in Tempe, an individual or group must complete an Adaptive Streets project application and submit it to the City for review and approval.

Anyone who lives or works in the City is eligible to apply to pursue an adaptive streets project.

- Residents
- Businesses
- Schools
- Neighborhood associations
- Business associations
- Non-profits

The Adaptive Streets program is managed by the City’s Transportation Planning Team, in partnership with other departments. A City team member will help applicants through the project application process and subsequent City review and approval processes. The applicant(s) should **assemble the following information prior to contacting the City** with an adaptive streets project idea:

- Identify **the need** that the adaptive streets project will address
- Identify **where the proposed project is located** and the existing conditions at the location (number of lanes, speed limit, availability of sidewalks/parking/bicycle facilities, etc.)

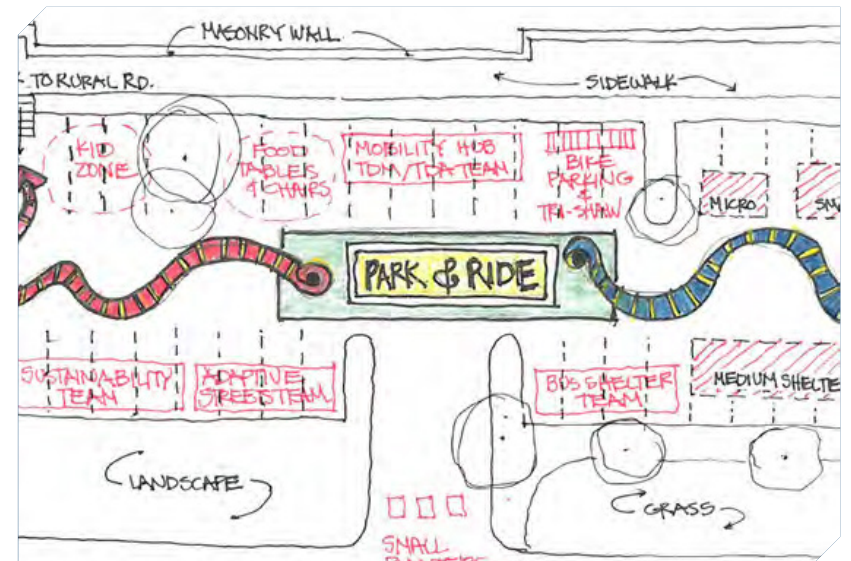
- Identify the proposed **type of adaptive street strategy** including proposed materials/components to be included
- Engage with surrounding neighbors or business owners who may be affected by the project to **show initial support or consensus** for the project

With this information, City staff will meet with potential applicants to review the project idea and provide guidance on other components and processes for the application process.

Completing the Application

The Adaptive Street Project Application includes the following components that must be completed by the applicant with support from City staff:

- *Project idea development and sketch planning* – Refine or further define your project description and provide both a narrative and visual description of the project; the visual description may include maps, sketches, example pictures, or other visuals. Project ideas should conform to the design requirements that are outlined in the Implementation Design Guide.



- *Working with an artist or other contractor/vendor (if applicable)* – many adaptive streets projects will require support from an artist or other contractor to install. The City has a list of pre-qualified artists or contractors/vendors they have worked with before that can support both the planning (schedule, cost estimate, sketches) and implementation of your project.
- *Community engagement* - The key to moving forward with a successful project is sharing your vision and building consensus for it with those that are affected. Neighborhood Services staff are available to help you with strategies to get you moving in the right direction. Call or write to 480.250.8234 or neighborhoods@tempe.gov.
- *Project cost estimates/bids* - Tempe staff can help you develop realistic cost estimates for your project. This may include engaging with an artist, contractor, or vendor to get bids to complete your project if it moves towards implementation.
- *Project schedule* – Create a realistic schedule for the design and implementation of the project if it is approved; how long it will take to contract with an artist or contractor and obtain materials and how long construction/painting will take? The schedule should also outline the expectations for the duration of the adaptive street (adaptive streets are not permanent) and any plans for maintaining the adaptive street (i.e. will paint be refreshed as it fades? Who will be responsible for maintaining chairs and tables within an alternative use space? Who will be responsible for maintaining trees or plants that might be included in vertical barriers?)

When all of this information is in place and has been reviewed by your City contact, then the applicant can formally submit their Adaptive Streets Project Application. Applicants should understand that submitting an application does not guarantee the project will be approved or cleared for implementation.

For more details about the Adaptive Streets application process, visit the Adaptive Streets Application Guidebook.

