Tempe

October 2026

Transportation Plan

Active Transportation Toolkit

2050

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SHARED LANE MARKINGS

Description:

Roadways where bicyclists and motor vehicles share the same travel lane.



Application/Considerations

- Appropriate for low volume/low speed streets with no centerline
- Max. volume: 2,000 ADT
- Max. speed: 25 mph

Methods/Elements

- Shared lane markings and signage
- Traffic calming elements:
  - Speed humps or cushions
  - Curb extensions
  - Chicanes
  - Neckdowns

STRIPED BIKE LANES

Description:

Dedicated on-street lanes marked with pavement striping and symbols to provide a designated space for bicyclists.



Application/Considerations

- Appropriate for low to medium volume streets
- Max. 3 lanes
- Volume: 3,000 ADT max.
- Speed: 25 mph max.
- Typical width: 5-6 ft

Methods/Elements

- Striping, markings and signage
- Options to create space for bike facility:
  - Reduce travel lane width
  - Remove travel lane
  - Remove parking lane

BUFFERED BIKE LANES

Description:

Dedicated on-street bicycle lanes separated from adjacent traffic or parking lanes by a painted buffer to provide additional space and comfort for bicyclists.



Application/Considerations

- Appropriate for low to medium volume streets
- Max. 3 lanes
- Volume: 6,000 ADT max.
- Speed: 30 mph max.
- Typical width: bike lane: 5-6 ft; striped buffer: 2 ft min.

Methods/Elements

- Striping, markings and signage
- Options to create space for bike facility:
  - Reduce travel lane width
  - Remove travel lane
  - Remove parking lane

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SEPARATED BIKE LANES

Description:

Roadways where bicyclists and motor vehicles share the same travel lane.

Application/Considerations

- Appropriate for medium to high volume streets
- No lane limit
- Volume: 6,000 ADT or greater
- Speed: 25 mph or greater
- Typical width: bike lane: 5 ft min, 6 ft min. with continuous separation
- Buffer: see separation options shown on this page

Methods/Elements

- Striping, markings and signage
- Separation options:
    - Flexible delineators
    - Curb separators
    - Planter boxes
    - Raised median
- Options to create space for bike facility:
    - Reduce travel lane width
    - Remove travel lane
    - Remove parking lane



Bike lane separated with raised landscape median, Smith Road, Tempe.

SEPARATION OPTION: FLEXIBLE DELINEATORS

Description:

Vertical posts within a buffer or separation area to provide a visible, physical barrier between bicyclists and motor vehicles.



Application/Considerations

- Buffer width: 2 ft min.

SEPARATION OPTION: CURB SEPARATORS

Description:

Raised curbs or concrete barriers that provide physical separation between bicycle facilities and motor vehicle traffic.



Application/Considerations

- Buffer width: 3 ft min.

SEPARATION OPTION: RAISED MEDIANS

Description:

Elevated median islands that provide physical separation between bicyclists and motor vehicle traffic.



Application/Considerations

- Buffer width: 4 ft min.

SEPARATION OPTION: PLANTER BOXES

Description:

Landscaped planters used as a physical buffer between bicycle facilities and motor vehicle traffic.



Application/Considerations

- Buffer width: 4 ft min.

PARKING PROTECTED BIKE LANES

Description:

Bicycle lanes separated from moving traffic by a parking lane, creating a physical buffer.



Application/Considerations

- Appropriate for medium to high volume streets
- No lane limit
- Volume: 6,000 ADT or greater
- Speed: 30 mph or greater
- Typical width: bike lane: 5-6 ft; buffer/separation: 3 ft min.

Methods/Elements

- Striping, markings and signage
- Optional physical separation elements
- Parking lane and buffer between bike lane and travel lane
- Options to create space for bike facility:
  - Reduce travel lane width
  - Remove travel lane

SIDEWALK LEVEL BIKE LANES

Description:

Bicycle lanes located at sidewalk level and separated from motor vehicle traffic by a curb.



Application/Considerations

- Appropriate for medium to high volume streets
- No lane limit
- Volume: 6,000 ADT or greater
- Speed: 30 mph or greater
- Typical width: bike lane: 5-6 ft;
  buffer/separation from curb: 2 ft min.

Methods/Elements

- Curb separated bike lane at sidewalk level
- Markings and signage
- Options to create space for bike facility:
  - Widen sidewalk to accommodate sidewalk and bike lane
  - Reconstruct separate sidewalk/bikelane and buffers

SIDEPATH

Description:

A shared-use path physically separated from roadways that accommodates bicyclists and, in many cases, pedestrians within an independent travel corridor.



Application/Considerations

- Appropriate for medium to high volume streets
- No lane limit
- Volume: 6,000 ADT or greater
- Speed: 30 mph or greater
- Typical width: sidepath: 12 ft;
  buffer/separation from curb: 2 ft min.

Methods/Elements

- Curb separated shared-use path at sidewalk level
- Markings and signage
- Additional markings and signage at intersections to accommodate two-way bike traffic
- Options to create space for bike facility:
  - Widen sidewalk to accommodate sidepath
  - Reconstruct sidepath and buffers

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MULTI-USE PATH

Description:

A paved facility completely separate from the roadway and motorized traffic that is designated for nonmotorized, mixed use.



Application/Considerations

- Appropriate in separate ROW
- Minimum 10 ft. width

Methods/Elements

- Markings and signage
- Additional markings and signage at intersections

BIKE-BUS LANES

Description:

Bicycle lanes located at sidewalk level and separated from motor vehicle traffic by a curb.



Application/Considerations

- Appropriate for transit routes with insufficient space for a dedicated bike facility.

Methods/Elements

- Striping, markings and signage
- Options to create space for bus-bike facility:
  - Remove/rededicate travel lane
  - Remove parking lane
  - Reduce travel lane width

CROSSBIKE MARKINGS

Description:

High-visibility pavement markings that designate bicycle crossing locations and help guide bicyclists safely across intersections and driveways.



Application/Considerations

- Appropriate at the following intersections:
  - Unsignalized intersections with higher speed/volume cross traffic
  - Offset intersections
  - Signalized intersections with conflict areas.

Methods/Elements

- Striping, markings and signage
- Supportive elements:
  - Lighting
  - Ped/bike activated signals

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CONFLICT AREA MARKINGS

Description:

High-visibility pavement markings used at intersections, driveways, and other crossing locations to highlight potential conflict points between bicyclists and motorists.



.Application/Considerations

- Appropriate along bike lanes in potential conflict areas:
  - Intersections
  - Turn lanes
  - Driveways

Methods/Elements

- Solid or dashed colored pavement
- Striping, markings and signage

BIKE BOXES

Description:

Designated areas at the front of signalized intersections that allow bicyclists to wait ahead of motor vehicles, improving visibility and facilitating safer turns and crossings.



Application/Considerations

- Appropriate at signalized intersections with right turn conflicts
- Typically limited to one travel lane.

Methods/Elements

- Striping, markings and signage
- No turn on red signage

TWO-STAGE TURN QUEUE BOXES

Description:

Designated waiting areas that allow bicyclists to complete left turns in two stages, improving safety and reducing conflicts with motor vehicle traffic at intersections.



Application/Considerations

- Appropriate at signalized intersections with high traffic volumes
- No turn on red signage

Methods/Elements

- Striping, markings and signage

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BIKE LANES AT INTERSECTION APPROACH

Description:

Dedicated bicycle lanes that extend to or through intersections to improve visibility, guidance, and safety for bicyclists approaching crossing points.

.Application/Considerations

- Appropriate at intersection approaches where bike facilities are currently dropped

Methods/Elements

- Bike lane striping and markings extend to intersection
- Options to create space for bike facility:
  - Reduce travel lane width
  - Remove travel lane
  - Remove parking lane
  - Remove turn lane

BIKE SIGNALS

Description:

Traffic signals specifically designed for bicyclists that provide dedicated signal phases to improve safety and reduce conflicts with motor vehicles and pedestrians at intersections.



Application/Considerations

- Appropriate at complex signalized intersections or in conjunction with separated bike lanes or two-way bike facilities.

Methods/Elements

- Markings and signage
- Bike signal
- Supportive elements:
  - Passive detection or push button actuation
  - Leading bike intervals
  - “No turn” blank-out sign
  - Protected or exclusive signal phases

PED/BIKE ACTIVATED SIGNALS

Description:

Designated waiting areas that allow bicyclists to complete left turns in two stages, improving safety and reducing conflicts with motor vehicle traffic at intersections.



Application/Considerations

- Appropriate at unsignalized intersections where a bike route crosses a major street.

Methods/Elements

- Markings and signage
- Ped/bike signal
- Supportive elements:
  - Median refuge island
  - Lighting

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BIKE DETECTION

Description:

Technology that detects the presence of bicyclists at intersections and crossings to activate signals, improve operations, and reduce delays.



.Application/Considerations

- Appropriate at signalized intersections

Methods/Elements

- Passive bicycle detection at stop bar

PROTECTED INTERSECTION

Description:

Traffic signals specifically designed for bicyclists that provide dedicated signal phases to improve safety and reduce conflicts with motor vehicles and pedestrians at intersections.



Application/Considerations

- Appropriate at large intersections with multiple travel lanes.

Methods/Elements

- Physical separation and deflection of bike lane at intersection
- Queuing area
- Crossbike markings
- Marking and signage
- Supportive elements:
  - Bike signal
  - Leading bike intervals
  - “No turn” blank-out sign
  - Protected or exclusive signal phases

TRAFFIC CALMING ELEMENTS

Description:

Street design features such as speed humps, curb extensions, and raised crossings that reduce vehicle speeds and improve safety for all roadway users.



Application/Considerations

- Appropriate along bike routes on local streets.

Methods/Elements

- Speed humps or cushions
- Curb extensions
- Chicanes
- Neckdowns
- Raised crosswalk

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LANE REDUCTION

Application:
Appropriate along high stress bike routes where buffers/separation do not exist.

Methods/Elements:

- Elimination of a travel, turn or parking lane to free up space for bike facilities

ROADWAY WIDENING

Application:
Appropriate where existing roadway width cannot accommodate desired bicycle facilities and lane reallocation is not feasible; may require additional right-of-way.

Methods/Elements:

- Widen the curb-to-curb section of a roadway to provide space for bike facilities, or
- Widen the curbside to provide space for bike facilities at sidewalk level

LANE NARROWING

Application:
Appropriate along high stress bike routes where buffers/separation do not exist.

Methods/Elements:

- Narrowing of travel lanes to free up space for bike facilities and reduce vehicle speeds

LIGHTING

Application:
Appropriate along bike routes, particularly at intersections and potential conflict areas.



Methods/Elements:

- Pedestrian scale light fixtures

WAYFINDING SIGNAGE

Application:
Appropriate intermittently, especially along indirect routes with frequent turns and at intersections where two or more routes meet.



Methods/Elements:

- Wayfinding signs, including branded signs with visual cues to indicate the BIKEiT routes

PUBLIC ART/ DECORATIVE PAVEMENT

Application:
Sculptural public art can be gateway elements and support a sense of place. Decorative pavement treatments can enhance the visibility or bike facilities and add an element of whimsy.



Methods/Elements:

- Sculptural public art elements
- Decorative pavement treatments

BICYCLE PARKING

Description:

Stormwater management practices, such as bioswales and landscaped areas, that capture, infiltrate, and treat runoff while enhancing the roadway environment.



Application/Considerations

- Appropriate at key destinations, including high-ridership transit stops, commercial centers, civic institutions, or parks and public spaces.

Methods/Elements

- Bike racks
- Bike shelters or lockers

STORMWATER/ LOW-IMPACT DEVELOPMENT

Description:

Stormwater management practices, such as bioswales and landscaped areas, that capture, infiltrate, and treat runoff while enhancing the roadway environment.



Application/Considerations

- Appropriate in areas prone to flooding to maintain the functionality of the bike facility following a weather event, and where rainwater street runoff can help maintain shade trees.

Methods/Elements

- Flow-through planters, rain gardens, biofiltration basins or vegetated swales to collect, infiltrate and cleanse rainwater.

STREET TREES/ LANDSCAPING/XERISCAPING

Description:

Traffic signals specifically designed for bicyclists that provide dedicated signal phases to improve safety and reduce conflicts with motor vehicles and pedestrians at intersections.



Application/Considerations

- Appropriate where the available space is sufficient for plant health and survival. Street trees and landscaping can contribute shade, comfort and aesthetic appeal to bike facilities and provide a buffer between vehicular and bike traffic.

Methods/Elements

- Shade trees in the public right-of-way, ideally located between bike facility and the travel lanes.
- Landscape/xeriscape elements providing visual interest and enhancing the microclimate.

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