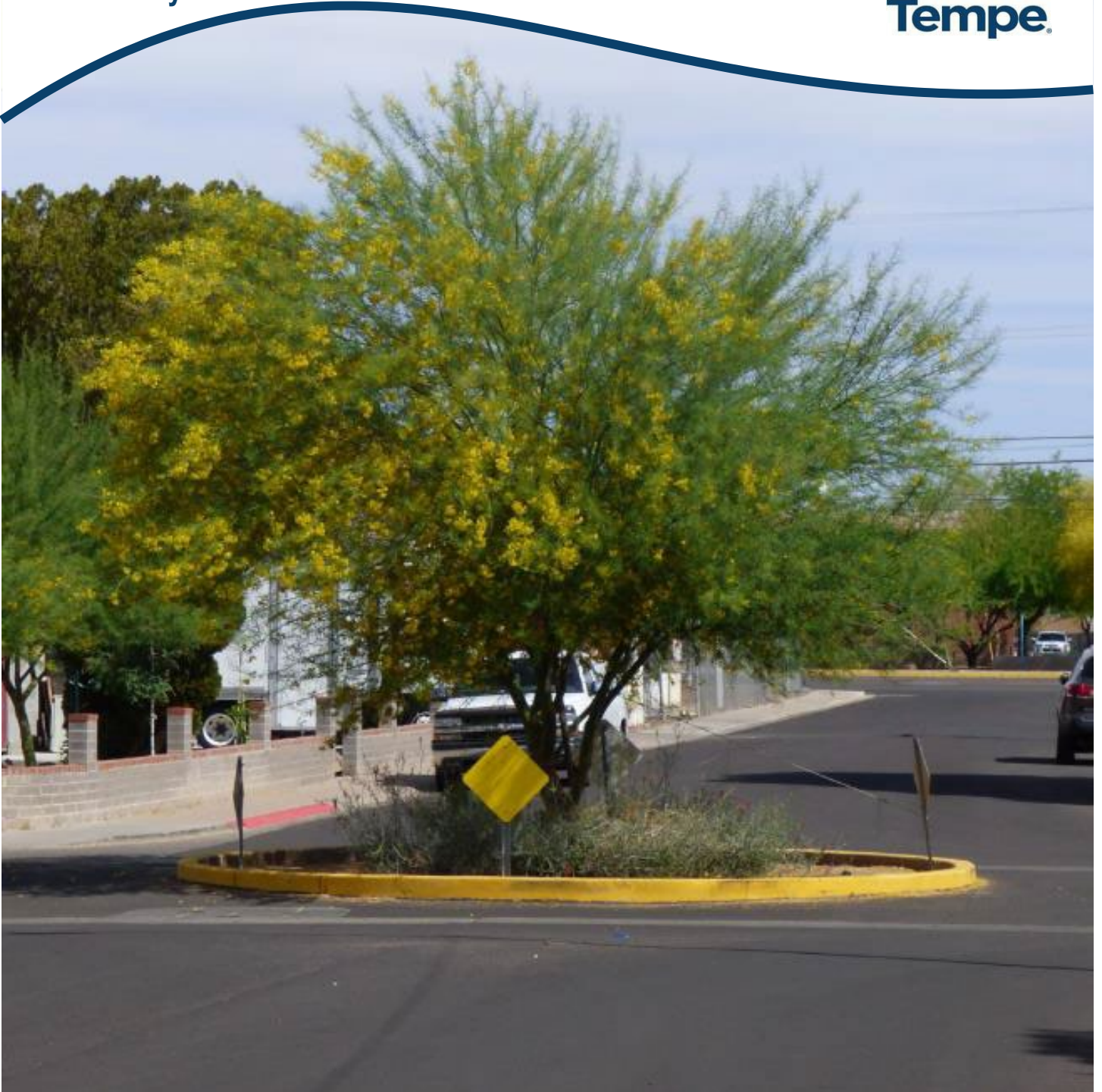


Tempe Neighborhood Traffic Calming Guide

Revised May 2023



Contents

Definitions	2
Other Traffic Resources	3
Implementing Traffic Calming.....	4
Step 1: Residents Submit Initial Request	4
Step 2: City Staff Review	5
Step 3: Residents Decide How to Proceed	7
Step 4: Public Meeting and Testing (applicable only to large-scale plans).....	8
Step 5: Voting.....	9
Step 6: Funding and Installation.....	11
Traffic Calming Devices	12
Neighborhood Traffic Calming Request Form	31

Definitions

This guide is designed to help Tempe residents learn about traffic calming devices and how these devices can be installed in neighborhoods.

Adjacent is defined as an area where the device abuts the property line.

Large Scale Devices include multiple physical devices other than speed cushions and chicanes or where access may be affected.

Local Comments are defined as comments received from households in the study area boundary.

Small Scale Devices include only signs, pavement markings, or a limited number of physical devices, such as speed cushions and chicanes, and does not affect access.

Study Area Boundary is the geographical location used to ensure that the data is confined to households affected by the traffic calming plan. The study area boundary will include streets with proposed traffic calming devices and other nearby streets expected to experience a change in access or traffic patterns because of these devices.

Traffic Calming means reducing the speed or amount of traffic in neighborhoods, using physical devices to make streets more livable.

Traffic Calming Plan indicates which traffic calming devices are proposed at which locations.

Other Traffic Resources

Traffic calming isn't the only way to improve traffic conditions in neighborhoods. The City of Tempe provides several other services that can help, including the following. To get more information about any of these programs, call 480-350-4311.

- *Police enforcement.* Speeding, not stopping at stop signs, and improper parking are examples of behaviors that police can enforce. Tempe's Selective Enforcement Motorcycle Squad (SEMS) is a unit created expressly to address neighborhood traffic safety concerns. SEMS provides more information and allows online enforcement requests, or residents can call **480-858-SEMS**. Enforcement can be requested instead of pursuing traffic calming or at any time before, during, or after traffic calming.
- *Traffic signs and markings.* To request a change to an existing traffic sign or pavement marking, such as STOP or YIELD signs, speed limits, parking prohibitions, and crosswalks, complete at 311 request at tempe.gov/311 with a description of the traffic concern. Staff will review the concern/request, collect data, visit the site and determine the appropriate action.
- *Streetlights.* Streetlights provide illumination during nighttime hours that can promote neighborhood safety and security. To request a streetlight, visit tempe.gov/tim.
- *Residential permit parking.* If a neighborhood is impacted by non-resident parked vehicles, residents can pursue a permit parking program that includes special parking signs and vehicle decals to limit parking to area residents only and authorized guests. To learn about the program and the process to establish a permit parking program, review the city's Residential Permit Parking Program at tempe.gov/rpp
- *Maintenance.* For issues related to maintenance of streets, including potholes, buckled or damaged sidewalks, and storm drains, as well as maintenance of traffic signals, streetlights, signs, and pavement markings, complete at 311 request at tempe.gov/311.

Implementing Traffic Calming

Traffic calming devices have varying impacts on neighborhoods. While they can improve traffic conditions, they also have disadvantages, such as reduced emergency response time, the potential for traffic to be diverted to other streets, and possible changes to on-street parking. Furthermore, traffic calming devices affect all drivers, including neighborhood residents, which some residents may oppose.

Tempe's role in the process is to collect traffic data, provide professional advice on traffic calming, solicit neighborhood support for the selected plan, and fund and install traffic calming devices for which sufficient neighborhood support is documented.¹ However, Tempe remains neutral about traffic calming and does not advocate for or against traffic calming devices in any neighborhood.

Neighbors' role is to follow the process, understand the advantages and disadvantages of the devices under consideration, and agree on a traffic calming plan for which to solicit neighborhood support. Because traffic calming devices have both advantages and disadvantages, it is essential that a neighborhood show wide support.

Step 1: Neighbors Submit Initial Request

Residents interested in traffic calming should complete and submit a **Neighborhood Traffic Request Form**, which can be found on page 31. The form requests signatures from residents representing six households to indicate neighborhood support for the initial request. The form should be submitted to the city of Tempe at TrafficCalming@tempe.gov. Requests are responded to in the order they are received.

It may be helpful to discuss previous or current traffic calming efforts with other neighbors and representatives of a Neighborhood Association or Homeowners Association (if applicable).

¹ City funding is limited to traffic calming devices. "Betterments," such as landscaping in a median, are not eligible for traffic calming funds but may be installed with a different funding source.

Step 2: City Staff Review

When a completed **Neighborhood Traffic Request Form** is received, city staff will review the request and schedule a time to count the number of vehicles and measure speeds on the affected streets. This information will help residents and city staff select the most appropriate traffic calming devices in later steps of the process.

The traffic calming program is open to neighborhood streets that meet ALL these criteria:

1. The streets have mostly **residential land use**, which means they serve homes, rather than businesses or other uses. Both single-family homes and multi-family residential complexes, such as apartments and townhouses, are considered residential land use.
2. The streets are classified as **local or collector streets**. The traffic calming program is not applicable to arterial streets. Tempe's Street Classification Map (Figure 1, on the next page) shows the city streets classified as arterials and collectors. A street that does not appear on this map is a local street.
3. The speed limit is **30 mph or less**.
4. The 85th-percentile speed² is as follows:
 - For most streets, the 85th-percentile speed is at least **6 mph above the speed limit**.
 - For streets with schools, parks, or bicycle boulevards³, the 85th-percentile speed is at least **4 mph above the speed limit**.
5. The amount of traffic is as follows:
 - For local streets, the amount of traffic is at least **400 vehicles per day**.
 - For collector streets, the amount of traffic is at least **1,000 vehicles per day**.

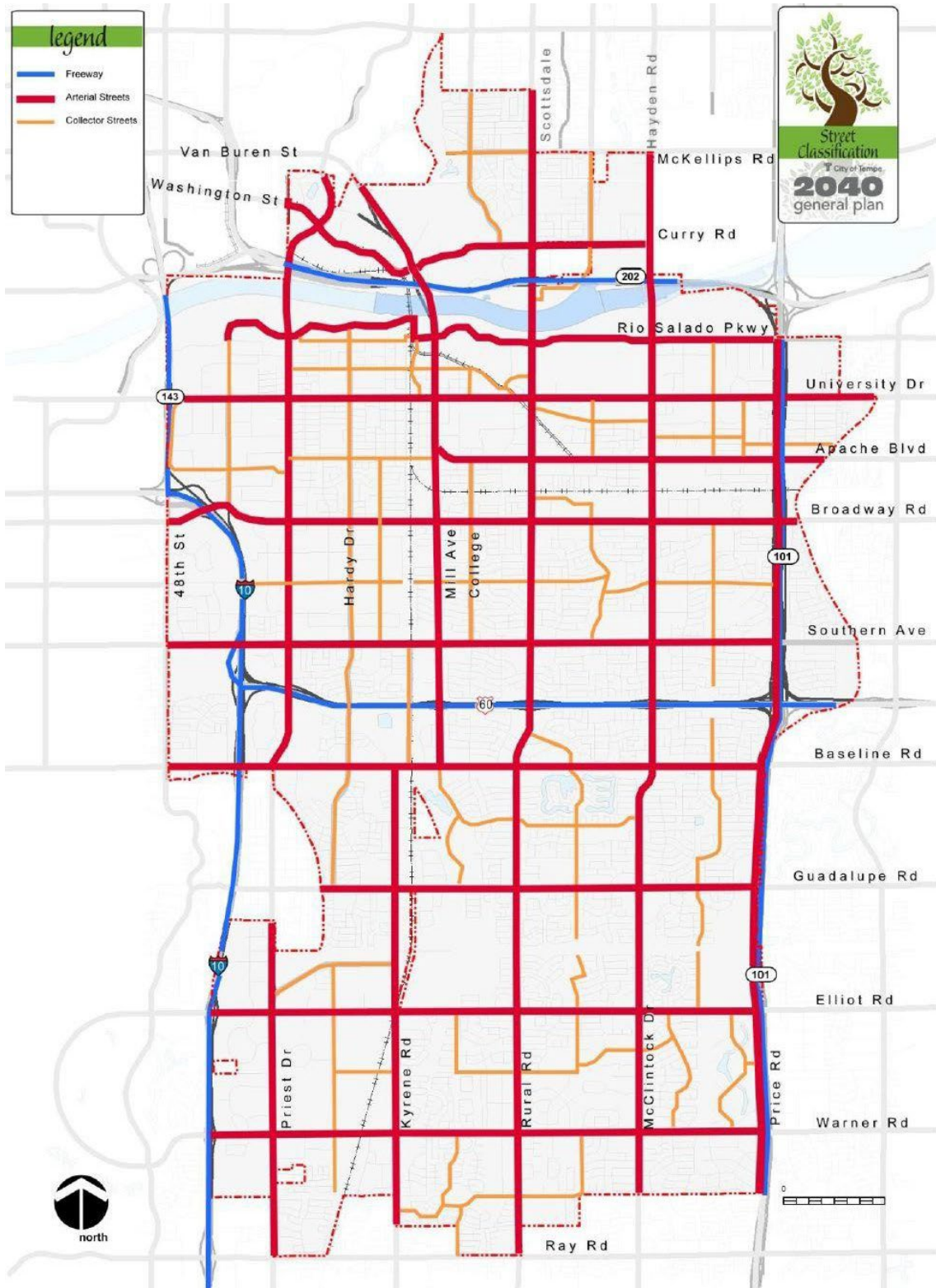
City staff has the authority to waive these thresholds for streets with a documented cut-through traffic problem.

City staff will respond to the requestor within 30 days after collecting traffic data. If the neighborhood meets the relevant criteria, the response will include a suggestion for potential traffic calming treatments and outline additional steps in the process. Requests will be added to the studies list in the order they are received.

² The 85th-percentile speed is the speed at which 85% of vehicles are traveling at or below. For example, a street might have an average speed of 27 mph, which means that about half of vehicles travel faster than 27 mph and half of vehicles travel slower than 27 mph. On this street, the 85th percentile speed might be about 31 mph.

³ A bicycle boulevard is a street that has been designated with specialty signs as a low-stress route for bicyclists. A map of and information about bicycle boulevards in Tempe can be found at tempe.gov/bike.

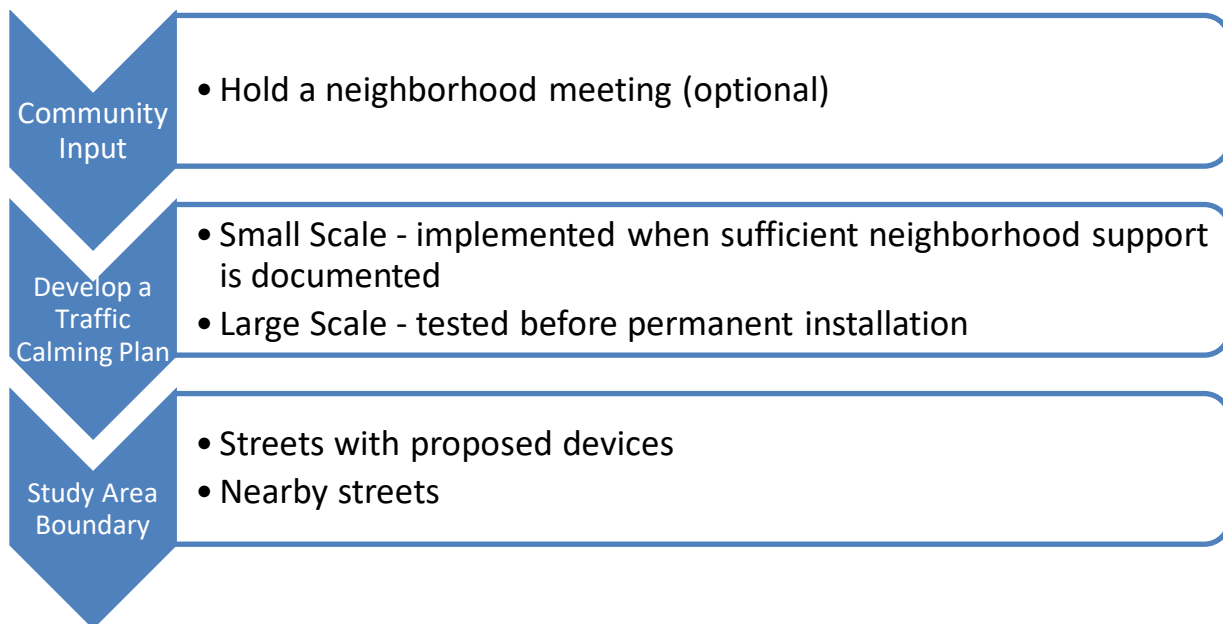
Figure 1: Tempe Street Classification Map



Source: City of Tempe General Plan 2040, November 2013, p. 18.

Step 3: Residents Decide How to Proceed

- A) If the neighborhood meets the qualifying criteria on page 5, residents can determine whether to pursue traffic calming devices. The decision can be based on traffic data collected in Step 2, along with community input. It may be helpful to hold a neighborhood meeting to discuss the advantages and disadvantages of traffic calming devices. If so, city staff can attend the meeting to help with the traffic calming program, traffic calming options available, and professional advice. Some residents may decide that traffic calming is not a good fit for their neighborhood based on the traffic data and community input. Residents can instead consider other traffic resources presented on page 2 of this guide.
- B) If residents elect to proceed with traffic calming, neighbors will work with city staff to develop a **traffic calming plan**, shown on a map, that indicates which traffic calming devices are proposed at what locations. The plan will show the exact locations of each traffic calming device so all neighbors can see how the devices will impact their homes and access. City staff will determine whether the traffic calming plan is considered **small-scale** or **large-scale**. Small-scale traffic calming plans can be implemented when sufficient neighborhood support is documented. Large-scale plans are typically tested before permanent installation. The two types of plans have different processes because of the testing phase of large-scale plans.
- C) City staff will designate a **study area boundary** that indicates which households are affected by the traffic calming plan. The boundary will encompass streets with proposed traffic calming devices and other nearby streets expected to experience a change in access or traffic patterns.



Step 4: Public Meeting and Testing (applicable only to large-scale plans)

(Neighborhoods pursuing small-scale plans may skip to Step 5.)

For large-scale traffic calming plans, city staff will hold one or more public meetings to discuss the plan. The meeting will be facilitated by city staff, who will notify stakeholders of the meeting via U.S. mail, door hangers, or other methods. City staff also will make information about the proposed plan available online. At the meeting and for a minimum 45-day comment period following the meeting, city staff will invite the public's input on the proposed plan and record all comments received.

City staff will review the number of local comments received from households in the study area boundary. If **at least 51% of local comments** express support for the proposed traffic calming plan, city staff will test the devices. City staff reserves the right to determine if the comments reflect a sufficient level of neighborhood participation to move forward with testing.

During the test, the traffic calming plan will be implemented using temporary devices, such as portable barriers, signs, and pavement markings, so drivers and residents can learn firsthand the impact of the plan on the neighborhood. City staff will determine the duration of the test, usually 30 to 90 days, and may adjust the plan if necessary.

Step 5: Voting

The purpose of voting is to document the amount of neighborhood support for the proposed traffic calming plan.

For small-scale traffic calming plans, voting can begin after residents finalize a plan (Step 3). For large-scale plans, voting begins during or after testing (Step 4).

1. City staff will subdivide the study area into two tiers for voting purposes:
 - Adjacent parcels: households where the device abuts the property line.
 - Other parcels: the remaining households in the study area.
2. City staff will prepare an online ballot and send a link to the ballot via U.S. mail along with information about the proposed traffic calming plan and the traffic calming process to all households in the study area boundary. The online ballot will:
 - be open for 45 days,
 - request voters' name and address,
 - allow a vote either supporting or opposing the traffic calming plan, and
 - provide space for voters to make comments.
3. While most voters are expected to cast ballots online, the city's mailing will also instruct voters how to request a paper ballot.
4. Eligible voters consist of all people 18 years and older who live, rent or own property (including multi-family units) within the study area boundary. One vote per person, per traffic calming plan is permitted. (Comments from other members of the public are also welcome but will not be tabulated as part of the voting results.)
5. If an owner or renter of a property doesn't cast a vote, they are not considered as part of the approval process.
6. A renter and an owner or two members of the same household could have opposing votes, their votes would then cancel each other out.

The following level of support must be documented during voting:

For small-scale plans, **100% of votes from adjacent parcels** and **70% of votes from other parcels** must support the plan. In most case, two questions will be asked related to small scale devices.

- 1) Are you in favor of (*insert name of small-scale device*) being added? (This requires 70% approval from voters.)
- 2) Would you be willing to have a (*insert name of small-scale device*) installed in front of your property? (This requires 100% approval from eligible voters; otherwise, the City identifies new locations.)

For large-scale plans, no distinction is made between adjacent parcels and other parcels. Rather, **60% of all votes from study area** must support the plan.

	Small-Scale Devices (Speed Cushions, Chicanes, etc.)	Large-Scale Devices (Diverter, Closures, etc.)
Support from Adjacent Parcels	100% of votes must support**	—
Support from Other Parcels	At least 70% of votes must support	At least 60% of votes must support

Because of the 100% support requirement for the installation small-scale plans devices adjacent to a resident’s household, neighborhood applicants may want to start by assessing the support from adjacent parcels. If any such household is opposed to installation of a small-scale device adjacent to their household, staff will work, to reconfigure the plan to move a proposed device away from a household opposed to the plan.

At the conclusion of voting, city staff will confirm whether sufficient support for the traffic calming plan has been documented. However, city staff retains the ability to modify the traffic calming process or a traffic calming plan to address issues such as safety, land use, future growth, right-of-way, street configuration, or traffic conditions.

If the traffic calming plan does not receive the necessary support, the neighborhood may start the process again after 12 months have passed since the voting closed.

Step 6: Funding and Installation

Once sufficient neighborhood support has been reached, the traffic calming plan is eligible for implementation. Several funding sources may be used for traffic calming:

- A) Small-scale traffic calming plans can be implemented within the budgetary authority of the Engineering and Transportation Director. Typically, Tempe has traffic management funding available in its budget to implement small-scale projects once they become eligible for installation. (However, the availability of funding is subject to change.) City staff will arrange for installation and communicate the installation schedule to neighborhood applicants.
- B) Large-scale traffic calming plans may require funding beyond Tempe's traffic management funding budget and may require a budget item as part of the city's Capital Improvement Program (CIP). City staff will prioritize large-scale projects that require alternative funding on a first-come, first-served basis, according to the date sufficient neighborhood support is documented. Funding for large-scale projects may require City Council approval.
- C) Tempe has other funding sources that can be considered for installation of traffic calming plans. Neighborhood grant funds are available for Neighborhood and Homeowners associations registered with the city's Neighborhood Services Division. Traffic calming projects are eligible for consideration in this competitive annual funding process, subject to funding availability and the requirements of this Guide.
- D) A neighborhood may have separate funding for traffic calming devices including when funding is paid for by a developer. In this case, after following the process outlined in previous steps, the neighborhood may proceed to install the traffic calming plan under a permit. City staff can help guide residents through the permit process.

Traffic Calming Devices

A variety of traffic calming devices might be appropriate components of a neighborhood's traffic calming plan. Different devices accomplish different objectives, such as reducing traffic speeds, volumes, or both. City staff will work with the neighborhood to suggest traffic calming devices that would be effective components of a traffic calming plan. A plan may include more than one type of traffic calming device.

The following pages describe traffic calming devices most often used, including their objectives, advantages, and disadvantages. Some traffic calming devices are designed for use at intersections, and others are used along street segments away from intersections. The construction of any of the traffic calming devices may be included in a project. Any enhancements beyond basic construction, such as landscaping, will increase the cost of a project and may require additional stakeholder participation in funding. Traffic signs and pavement markings (and sometimes additional streetlights) need to accompany most traffic calming devices to properly warn approaching traffic.

Median

STREET SEGMENT DEVICE

A median is a raised island near the center of a street. The median narrows the traffic flow and serves as a “channel” that may slow traffic.

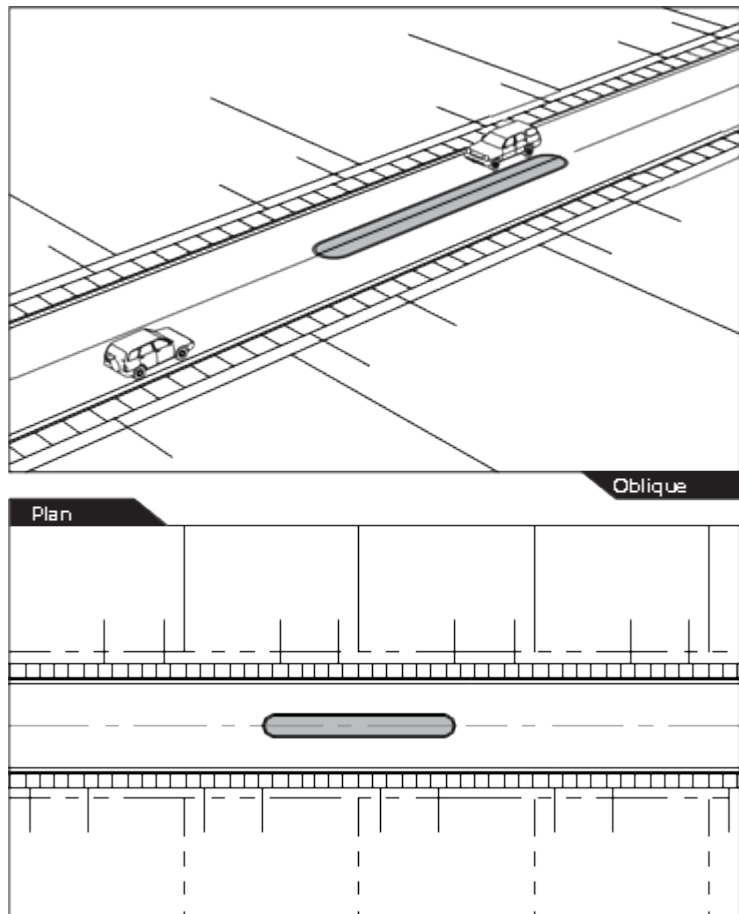
Depending on the type and location of the median, utilities may be impacted and require relocation.

Advantages

A median for traffic calming may produce a speed reduction and may reduce traffic noise.

Disadvantages

Medians do not reduce traffic and do require maintenance. Medians usually limit on-street parking. Medians may also limit the ability to provide bicycle lanes and driveway access.



Can be used on local streets	Yes
Can be used on collector streets	Yes
Reduces traffic	No
Reduces speeds	Maybe
Reduces noise	Maybe
Improves safety	Maybe
Restricts traffic access	Maybe
Slows emergency response	No
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	No
Approximate cost	\$15,000 to \$50,000

One-Way Choker

STREET SEGMENT DEVICE

A one-way choker is a barrier on either side of a local street that “channels” traffic at certain points. The one-way choker reduces traffic speed, noise, and may reduce traffic volume.

Design Considerations

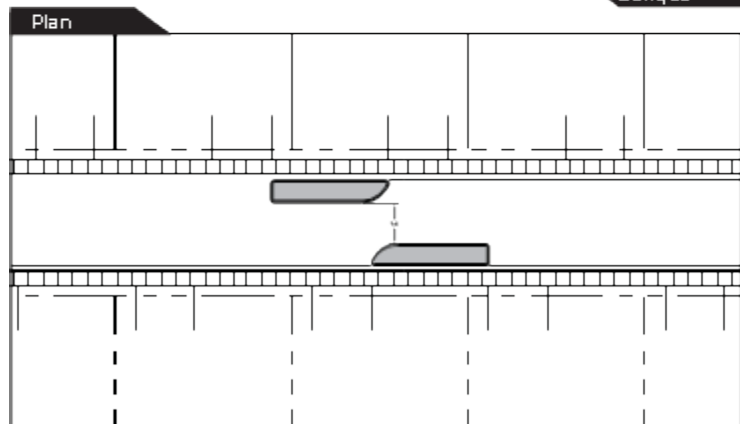
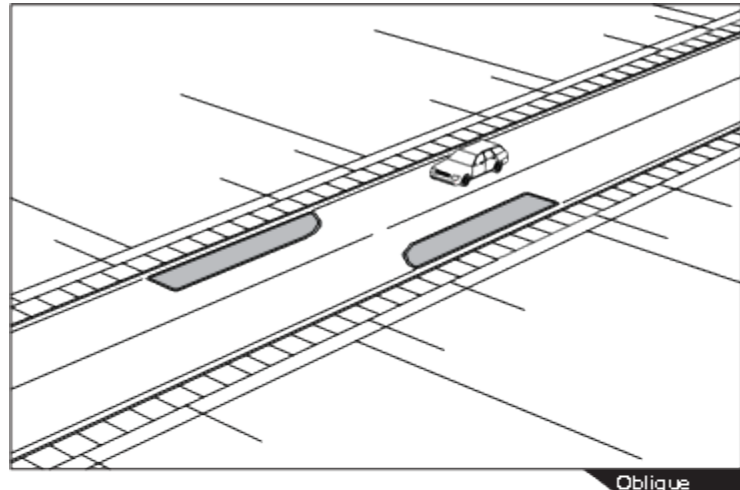
Depending on the type and location of the one-way choker, utilities may be impacted and require relocation. Problems related to drainage may also result.

Advantages

A one-way choker can be used on local streets and may reduce traffic volume as well as traffic speeds and traffic noise.

Disadvantages

A one-way choker is a higher-cost device and may result in changes to traffic patterns. A one-way choker may restrict emergency vehicle access, the ability to provide bike lanes, and access to driveways.



Can be used on local streets	Yes
Can be used on collector streets	Yes
Reduces traffic	Maybe
Reduces speeds	Maybe
Reduces noise	Maybe
Improves safety	No
Restricts traffic access	No
Slows emergency response	Maybe
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Maybe
Approximate cost	\$10,000 to \$35,000

Two-Way Choker

STREET SEGMENT DEVICE

A two-way choker is a barrier on either side of a local or collector street that narrows the street but allows traffic in both directions at the same time. A two-way choker is used primarily to reduce traffic speeds but may result in reduced traffic volumes and noise.

Design Considerations

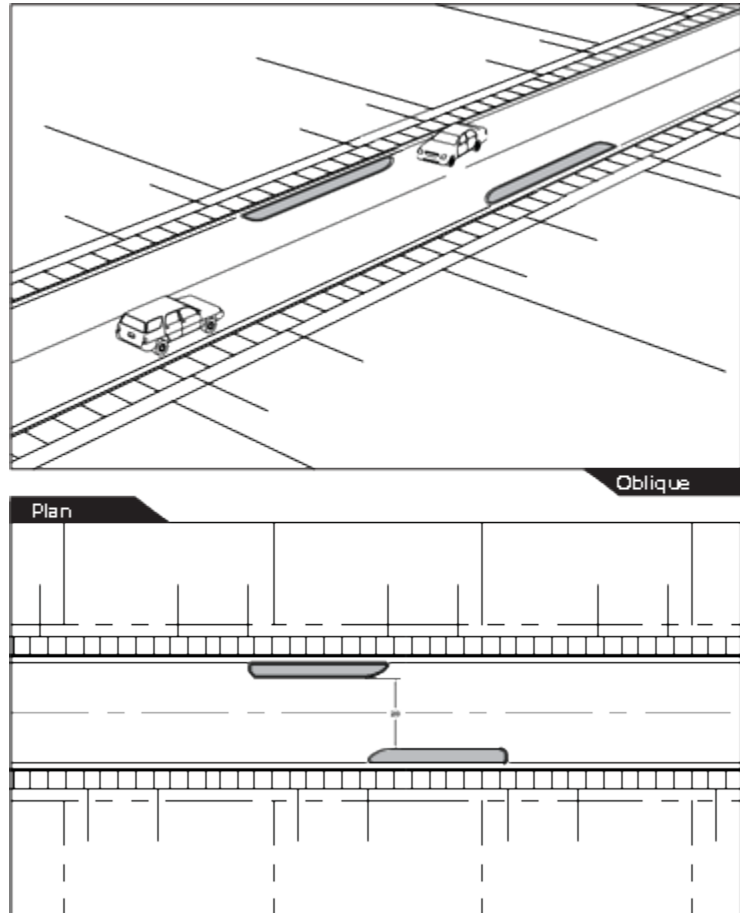
Depending on the type and location of the two-way choker, utilities may be impacted and require relocation. Problems related to drainage may also result.

Advantages

Compared to a one-way choker, a two-way choker does not as significantly restrict emergency vehicle access. The two-way choker allows traffic in both directions.

Disadvantages

A two-way choker often does not result in a marked reduction in traffic speed and noise and may require the loss of bicycle lanes. In many cases, the speed reduction of a two-way choker diminishes as drivers become accustomed to it. A two-way choker may also impede driveway access and may require regular maintenance due to vandalism.



Can be used on local streets	Yes
Can be used on collector streets	Yes
Reduces traffic	No
Reduces speeds	Maybe
Reduces noise	Maybe
Improves safety	No
Restricts traffic access	No
Slows emergency response	No
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Minor
Approximate cost	\$8,000 to \$25,000

Traffic Footballs

STREET SEGMENT DEVICE

Traffic footballs are raised curvilinear medians in the roadway that require drivers to steer around the curves. When several are used consecutively, traffic footballs serve to slow traffic on local or collector streets by guiding traffic.

Design Considerations

Depending on the type and location of traffic footballs, utilities may be impacted and require relocation.

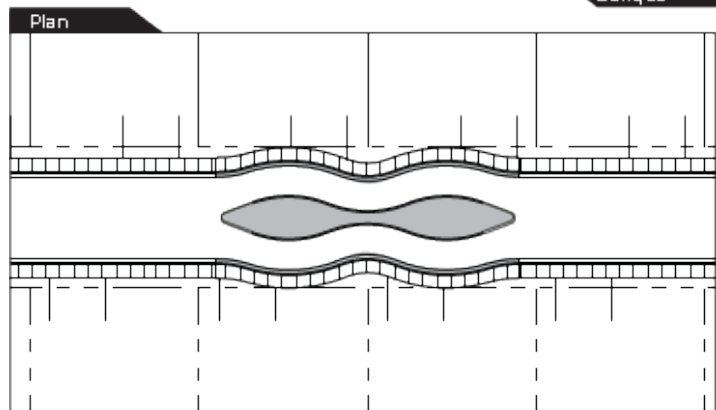
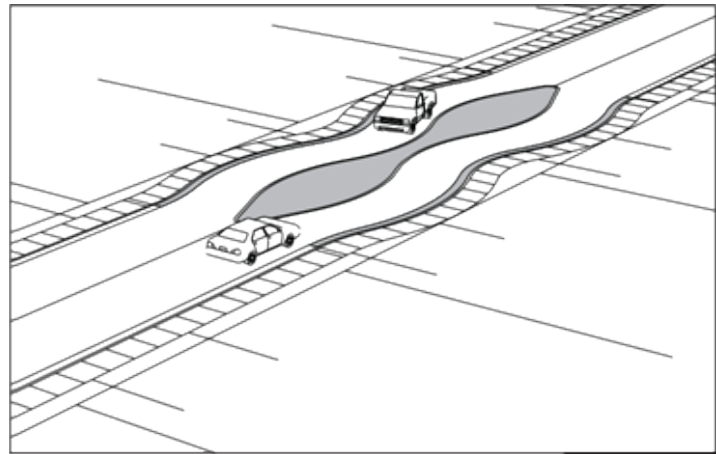
The construction of traffic footballs may require relocation of curb, gutter, and sidewalk, and may require costly street revisions to allow for proper drainage.

Advantages

When implemented correctly, traffic footballs are effective means of slowing traffic.

Disadvantages

Creating curvature in the roadway will likely have an adverse impact on bicycle lanes, on-street parking and emergency vehicle access.



Can be used on local streets	Yes
Can be used on collector streets	Yes
Reduces traffic	No
Reduces speeds	Yes
Reduces noise	Maybe
Improves safety	No
Restricts traffic access	No
Slows emergency response	Maybe
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Maybe
Approximate cost	\$30,000 to \$120,000

Chicane

STREET SEGMENT DEVICE

A chicane is a series of curb extensions on alternating sides of a local street that narrow the roadway to one lane and require drivers to steer from one side of the road to the other. Chicanes reduce traffic speed and may reduce traffic volume.

Design Considerations

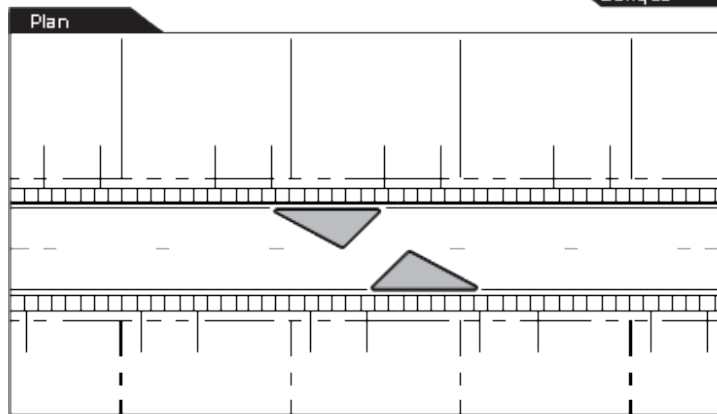
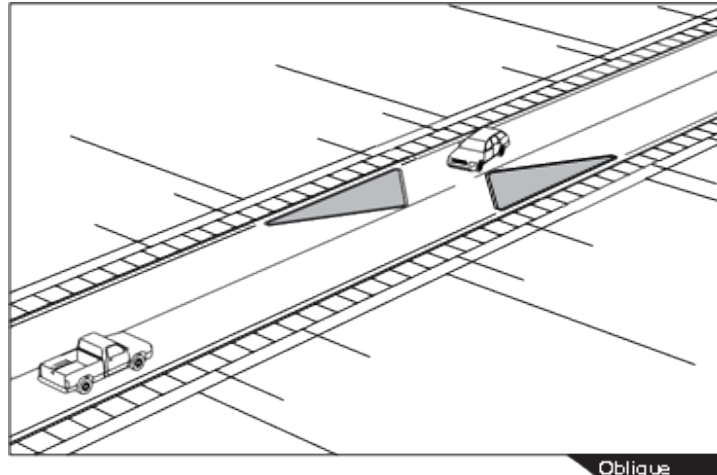
Depending on the type and location of the chicane, utilities may be impacted and require relocation. Problems related to drainage may also result.

Advantages

Chicanes reduces traffic speed and noise. They may also reduce traffic volume and restrict “straight through” movement of traffic.

Disadvantages

With no other traffic present, drivers can accelerate through the chicane which may limit speed reduction. Chicanes lose their effectiveness when a low volume of traffic is present.



Can be used on local streets	Yes
Can be used on collector streets	No
Reduces traffic	Maybe
Reduces speeds	Yes
Reduces noise	Maybe
Improves safety	No
Restricts traffic access	No
Slows emergency response	Maybe
Requires maintenance	Yes
Reduces violations	Yes
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Maybe
Approximate cost	\$10,000 to \$35,000

Speed Cushion

STREET SEGMENT DEVICE

Speed cushions are rounded raised areas of pavement that are parabolic in shape and are placed across roadways primarily to reduce the speed of traffic on local and collector streets.



Design Considerations

Speed cushions are often installed in a series and are usually spaced between 300 and 600 feet apart. Speed cushions are typically 12 to 14 feet in length 3 to 4-inches in height at the crest of the hump. Channels in the speed cushion help mitigate their impact on emergency vehicles.

Advantages

Speed cushions slow traffic more gradually than speed bumps and can be effective in slowing traffic and reducing traffic volume.

Disadvantages

Drivers can slow before a speed cushion and accelerate between speed cushions, producing more acceleration noise. Speed cushions can impact transit routes. Drivers wanting to avoid streets with speed cushions may divert to nearby streets. Speed cushions may cause discomfort to drivers with back issues.

Can be used on local streets	Yes
Can be used on collector streets	Yes
Reduces traffic	Maybe
Reduces speeds	Yes
Reduces noise	No
Improves safety	No
Restricts traffic access	No
Slows emergency response	Yes
Requires maintenance	Yes
Reduces violations	Yes
Adversely impacts bicyclists	No
Adversely impacts transit	Maybe
Approximate cost	\$5,000 to \$20,000

Bulb-Out

INTERSECTION DEVICE

A bulb-out is a narrowing on both sides of an intersection, but it allows all traffic movements. Bulb-outs are used primarily to reduce speeds (mostly turning speeds) but may result in reduced traffic volumes.

Design Considerations

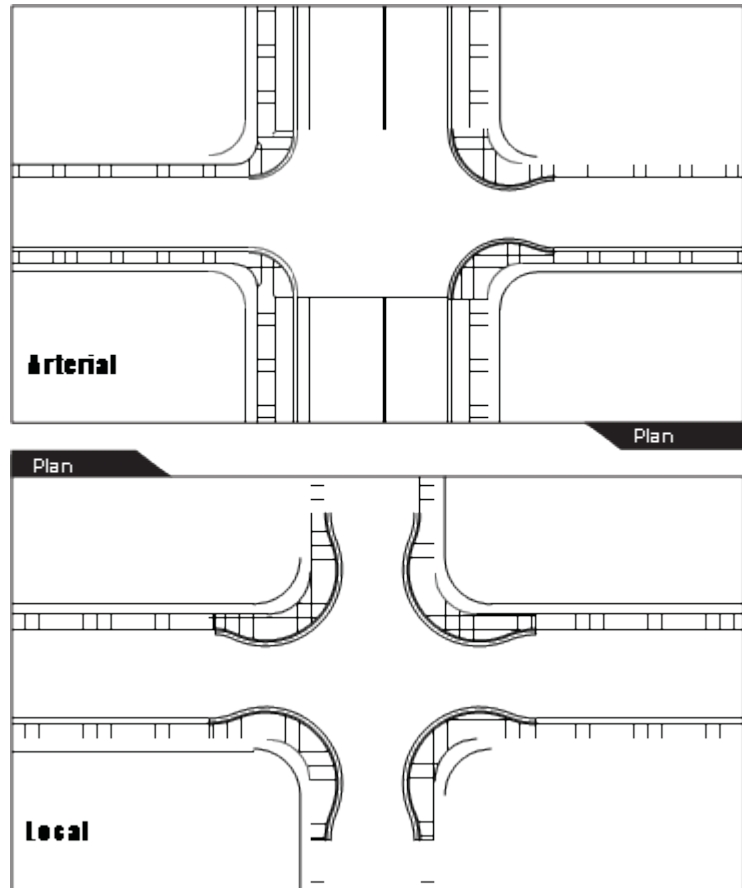
Depending on the type and location of the bulb-out, utilities may be impacted and require relocation. Problems related to drainage may also result. Four bulb-outs are constructed at the intersection of local or collector streets.

Advantages

Bulb-outs do not significantly restrict emergency vehicle access. Bulb-outs may reduce the operating speed of traffic and may also reduce traffic volume. Bulb outs also shorten pedestrian crossing distances and make pedestrians more visible to approaching traffic.

Disadvantages

Bulb-outs may not result in marked reduction in traffic speed and noise and may require the loss of bicycle lanes. In many cases, speed reduction of the bulb-outs diminishes as drivers become accustomed to them. Bulb-outs may also require regular maintenance.



Can be used on local streets	Yes
Can be used on collector streets	Yes
Reduces traffic	Maybe
Reduces speeds	Maybe
Reduces noise	No
Improves safety	Yes
Restricts traffic access	No
Slows emergency response	Yes
Requires maintenance	Yes
Reduces of violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Maybe
Approximate cost (per pair)	\$10,000 to \$30,000

Traffic Circle

INTERSECTION DEVICE

Traffic circles are raised islands in intersections around which traffic circulates. Traffic circles are implemented to slow traffic and discourage cut-through traffic but do not affect access.

Design Considerations

Depending on the type and location of the traffic circle, utilities may be impacted and require relocation.

Advantages

Traffic circles are effective at reducing speed and can be used on both local and collector streets. Traffic circles also can improve safety by moderating speeds and can have a positive aesthetic value.

Disadvantages

Traffic circles can be difficult for large vehicles, motorists pulling trailers, and emergency vehicles to navigate. Traffic circles must be designed in such a manner as to not encroach on crosswalks.

Can be used on local streets	Yes
Can be used on collector streets	Yes
Reduces traffic	Maybe
Reduces speeds	Yes
Reduces noise	No
Improves safety	Yes
Restricts traffic access	No
Slows emergency response	Yes
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Yes
Approximate cost	\$8,000 to \$25,000

Roundabout

INTERSECTION DEVICE

Roundabouts require traffic to circulate counterclockwise around a central island. Roundabouts typically slow traffic to 15 mph, but usually do not provide a reduction in traffic volume.

Design Considerations

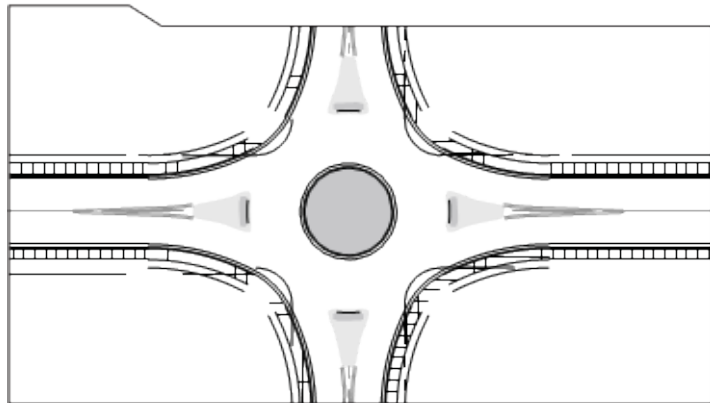
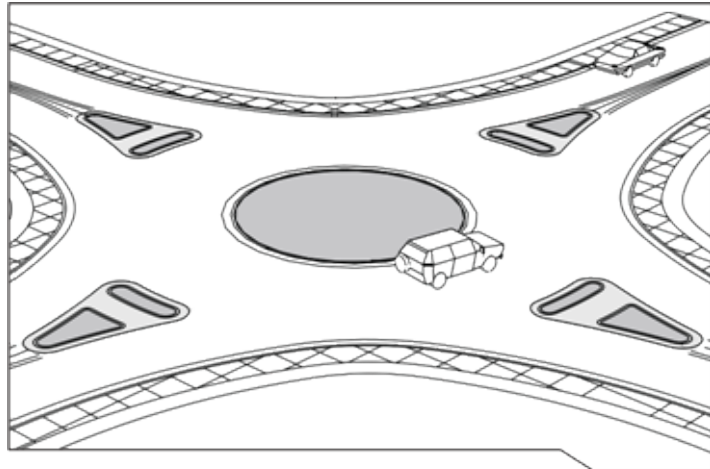
Depending on the type and location of the roundabout, utilities may be impacted and require relocation. The construction of a roundabout may also require additional right-of-way and may impact adjacent properties

Advantages

Roundabouts can be effective in moderating traffic speeds. Roundabouts can be aesthetically pleasing when well landscaped. Roundabouts can be safer and less expensive than traffic signals.

Disadvantages

The construction of roundabouts may require additional right-of-way and may impact adjacent properties and utilities.



Can be used on local streets	No
Can be used on collector streets	Yes
Reduces traffic	No
Reduces speeds	Yes
Reduces noise	Maybe
Improves safety	Yes
Restricts traffic access	No
Slows emergency response	Yes
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	No
Approximate cost	\$100,000 to \$1 million

Right-Turn Diverter

INTERSECTION DEVICE

A right-turn diverter is a raised barrier that forces right turns at an intersection. Through movements and left turns both into and out of the street are prohibited.

Design Considerations

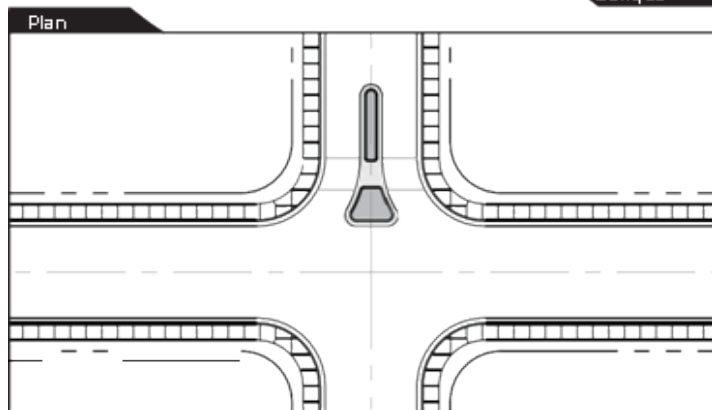
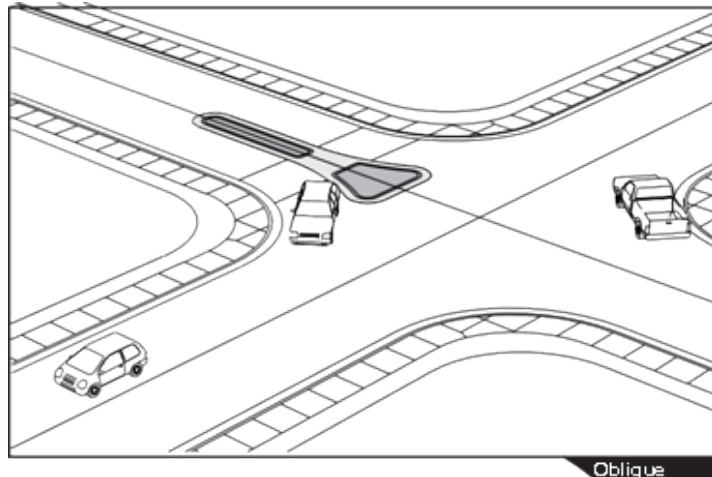
Depending on the type and location of the right-turn diverter, utilities may be impacted and require relocation.

Advantages

Right-turn diverters prevent cut-through traffic and reduces traffic volume on local streets.

Disadvantages

Right-turn diverters are ineffective in places where traffic can use driveways to bypass the diverter. Right-turn diverters may also redirect traffic to nearby streets causing additional impact to residents. Before being implemented, traffic circulation patterns must be reviewed to ensure that restricting through traffic and permitting only right turns will not be detrimental to efficient circulation. This traffic calming tool must be supplemented by regulatory turn restriction signs.



Can be used on local streets	Yes
Can be used on collector streets	No
Reduces traffic	Yes
Reduces speeds	Maybe
Reduces noise	Yes
Improves safety	Maybe
Restricts traffic access	Yes
Slows emergency response	Maybe
Requires maintenance	Yes
Reduces violations	Yes
Adversely impacts bicyclists	No
Adversely impacts transit	Maybe
Approximate cost	\$5,000 to \$20,000

Median Barrier

INTERSECTION DEVICE

Median barriers are raised islands along the center of a street that continue through an intersection to block traffic at a cross street (with openings only for pedestrian crossings). This restricts movements on the side streets to right-in and right-out only.

Design Considerations

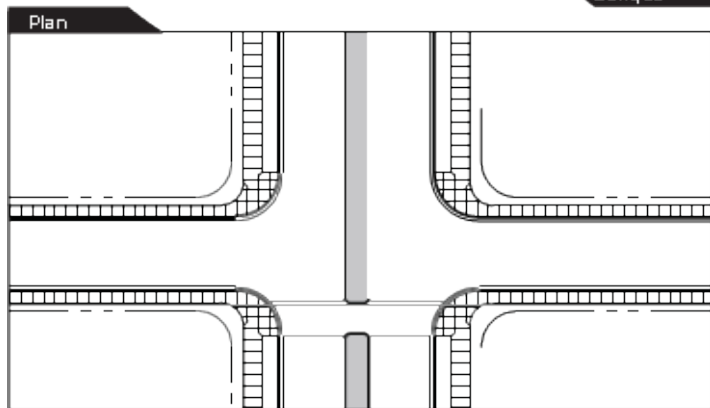
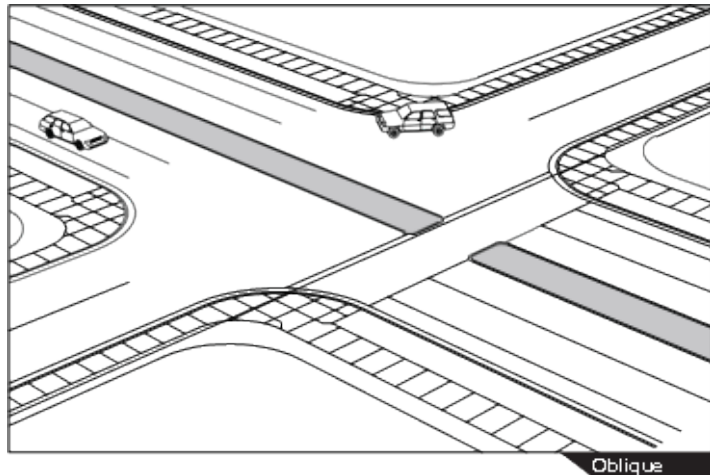
Depending on the type and location of the median barrier, utilities may be impacted and require relocation.

Advantages

Median barriers can improve safety at intersections and can reduce traffic volumes.

Disadvantages

Median barriers may require wider streets and limit turning to and from side streets for residents and emergency vehicles. Traffic may be diverted onto adjacent streets.



Can be used on local streets	Yes
Can be used on collector streets	Yes
Reduces traffic	Yes
Reduces speeds	No
Reduces noise	No
Improves safety	Yes
Restricts traffic access	Yes
Slows emergency response	Yes
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Maybe
Approximate cost	\$40,000 to \$120,000

Star Diverter

INTERSECTION DEVICE

A star diverter is a raised barrier placed in an intersection that allows traffic to make only right turns and prevents traffic from proceeding through an intersection.

Design Considerations

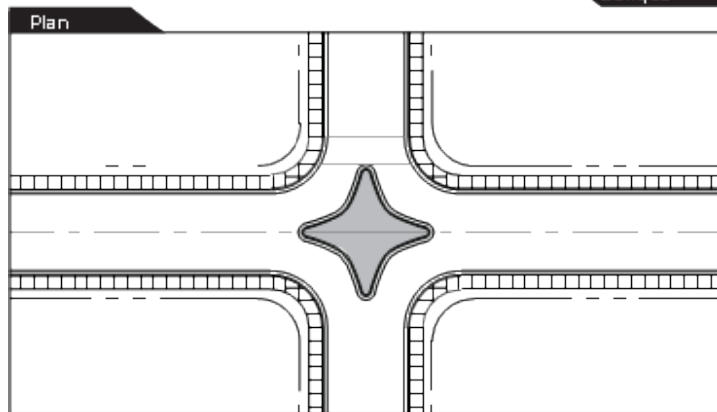
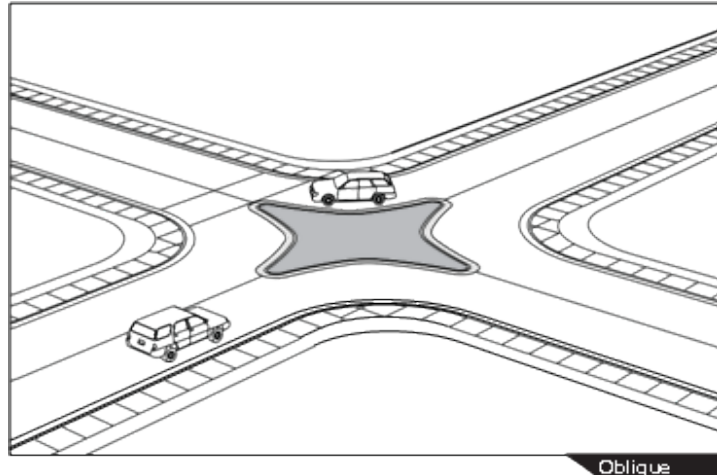
Depending on the type and location of the star diverter, utilities may be impacted and require relocation.

Advantages

Star diverters can usually be installed within the existing intersection and right-of-way. Star diverters may reduce traffic volume and restrict “straight through” movement of traffic.

Disadvantages

Star diverters eliminates all left turns and through traffic and are expected to change traffic circulation patterns and divert traffic onto adjacent streets.



Can be used on local streets	Yes
Can be used on collector streets	No
Reduces traffic	Yes
Reduces speeds	Yes
Reduces noise	Maybe
Improves safety	Maybe
Restricts traffic access	Yes
Slows emergency response	Yes
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Maybe
Approximate cost	\$12,000 to \$40,000

Departure Choker

INTERSECTION DEVICE

A departure choker is a curb extension that narrows a local street to allow travel in only one direction. A departure choker serves to eliminate traffic flow in one direction.

Design Considerations

The implementation of a departure choker requires approval from the fire and sanitation departments as it may impact their access.

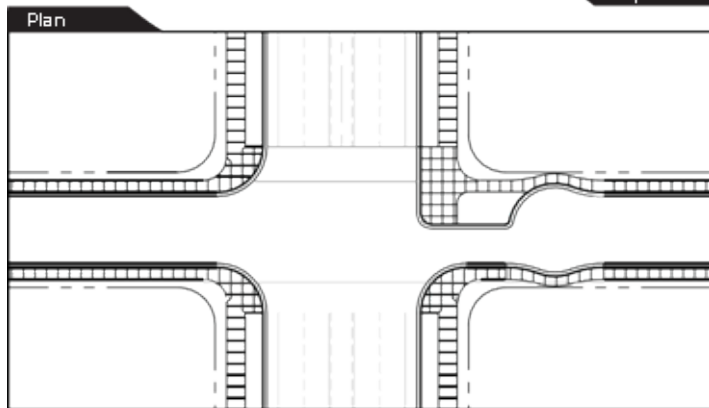
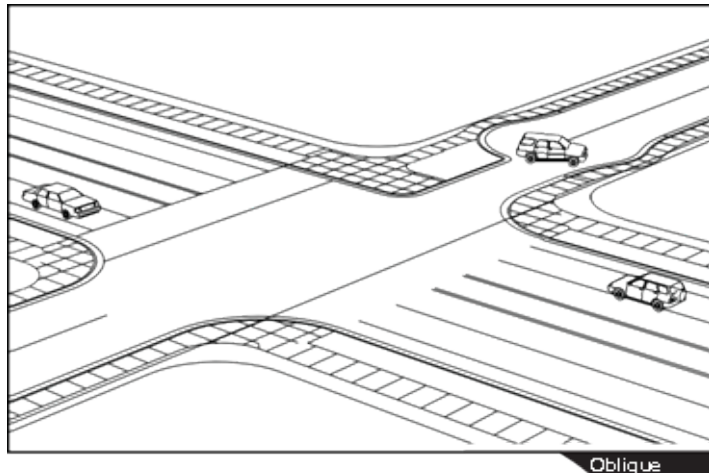
Depending on the type and location of the departure choker, utilities may be impacted and require relocation.

Advantages

Departure chokers can reduce both traffic speed and volume and have positive aesthetic value. Departure chokers are negotiable by emergency vehicles.

Disadvantages

Departure chokers lose effectiveness in the absence of other traffic. Bicycle lanes may be removed and bicyclists would have to merge with vehicular traffic. Departure chokers may require elimination of some on-street parking and construction of a large cul-de-sac.



Can be used on local streets	Yes
Can be used on collector streets	No
Reduces traffic	Yes
Reduces speeds	Yes
Reduces noise	Yes
Improves safety	Maybe
Restricts traffic access	Yes
Slows emergency response	Maybe
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Yes
Adversely impacts transit	Maybe
Approximate cost	\$25,000 to \$75,000

Entry Choker

INTERSECTION DEVICE

An entry choker is similar to a departure choker except it restricts traffic from entering a street.

Design Considerations

The implementation of an entry choker requires approval from the fire and sanitation departments as it may impact their access.

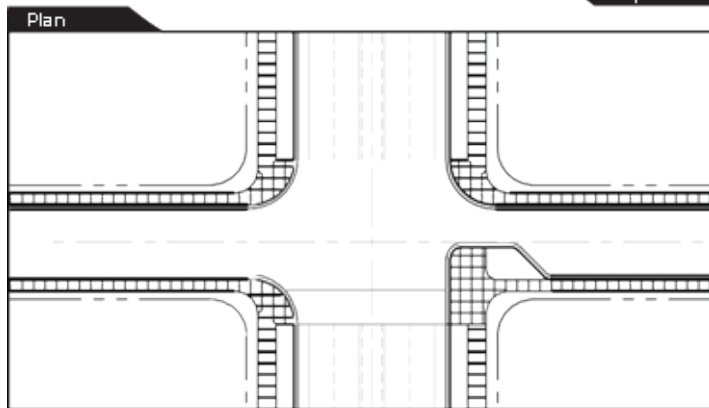
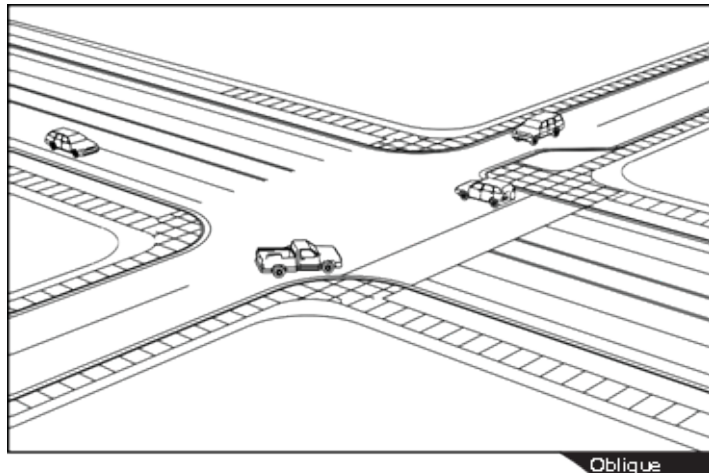
Depending on the type and location of the entry choker, utilities may be impacted and require relocation.

Advantages

Entry chokers are easily negotiable by large vehicles and can reduce both traffic speed and volume. If designed well, entry chokers can have positive aesthetic value.

Disadvantages

Entry chokers also lose effectiveness in the absence of other traffic. Bicycle lanes may be removed and bicyclists would have to merge with vehicular traffic. Entry chokers may require the elimination of some on-street parking.



Can be used on local streets	Yes
Can be used on collector streets	No
Reduces traffic	Yes
Reduces speeds	Yes
Reduces noise	Yes
Improves safety	Maybe
Restricts traffic access	Yes
Slows emergency response	Maybe
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Maybe
Approximate cost	\$15,000 to \$50,000

Diverter

INTERSECTION DEVICE

A diverter is constructed diagonally across an intersection to redirect traffic and maintain one movement on each approach.

Design Considerations

The implementation of a diverter requires approval from the fire and sanitation departments as it may impact their access.

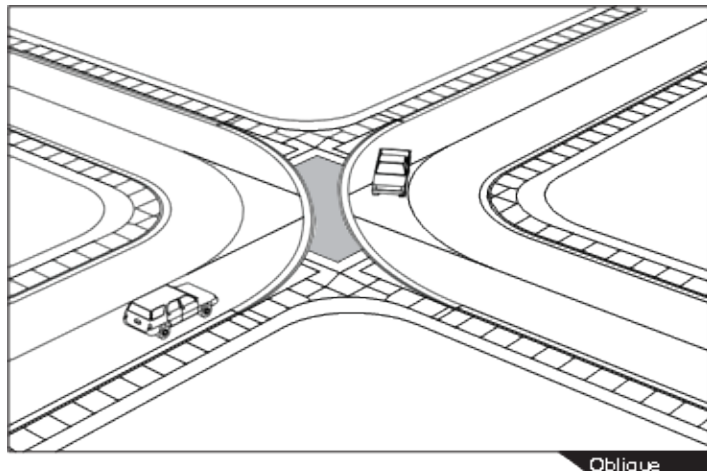
Depending on the type and location of the diverter, utilities may be impacted and require some level of relocation. Drainage may also be impacted.

Advantages

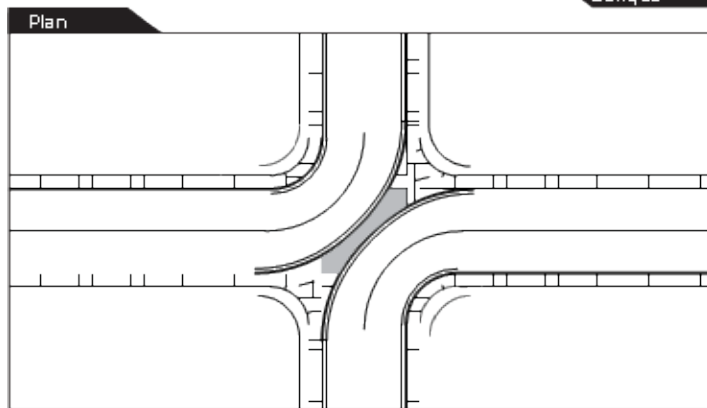
Diversers can improve safety by restricting turning movements and can reduce traffic volume on a cut-through route. Diversers can be designed to accommodate bicyclists making all movements.

Disadvantages

Diversers limit turning and access. Implementation of a diverter may require a wider street to accommodate traffic. Parallel streets may experience an increase in diverted traffic.



Oblique



Plan

Can be used on local streets	Yes
Can be used on collector streets	No
Reduces traffic	Yes
Reduces speeds	Maybe
Reduces noise	Yes
Improves safety	Yes
Restricts traffic access	Yes
Slows emergency response	Yes
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Maybe
Approximate cost	\$20,000 to \$70,000

Semi-Diverter (Type A)

INTERSECTION DEVICE

A semi-diverter is similar to a diverter but does not completely bisect the intersection diagonally.

Design Considerations

The implementation of a semi-diverter requires approval from the fire and sanitation departments as it may impact their access.

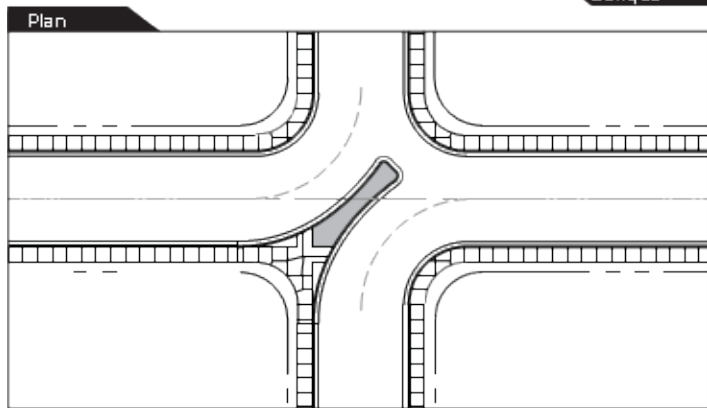
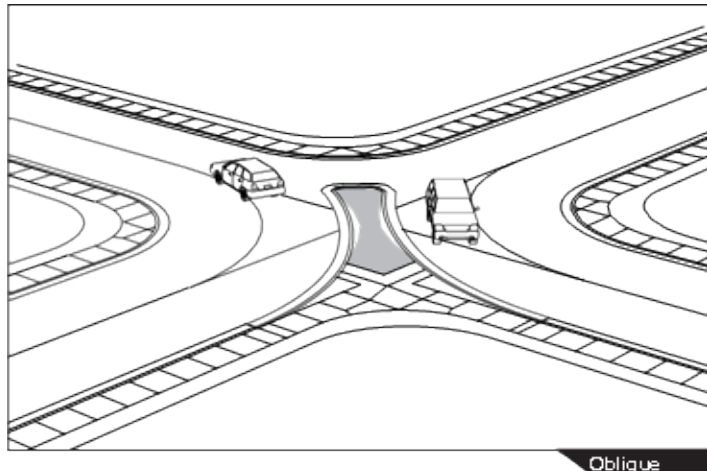
Depending on the type and location of the semi-diverter, utilities may be impacted and require some level of relocation. Drainage may also be affected.

Advantages

Semi-diverters can improve safety by restricting turning movements and can reduce traffic volume on a cut-through route. Semi-diverters can be designed to accommodate bicyclists making all movements.

Disadvantages

Semi-diverters limit turning and access. Implementation of a semi-diverter may require a wider street to accommodate traffic. Parallel streets may experience an increase in diverted traffic.



Can be used on local streets	Yes
Can be used on collector streets	No
Reduces traffic	Yes
Reduces speeds	Yes
Reduces noise	Yes
Improves safety	Yes
Restricts traffic access	Yes
Slows emergency response	Yes
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Maybe
Approximate cost	\$12,000 to \$40,000

Semi-Diverter (Type B)

INTERSECTION DEVICE

A semi-diverter is similar to a diverter but does not completely bisect the intersection diagonally.

Design Considerations

The implementation of a semi-diverter requires approval from the fire and sanitation departments as it may impact their access.

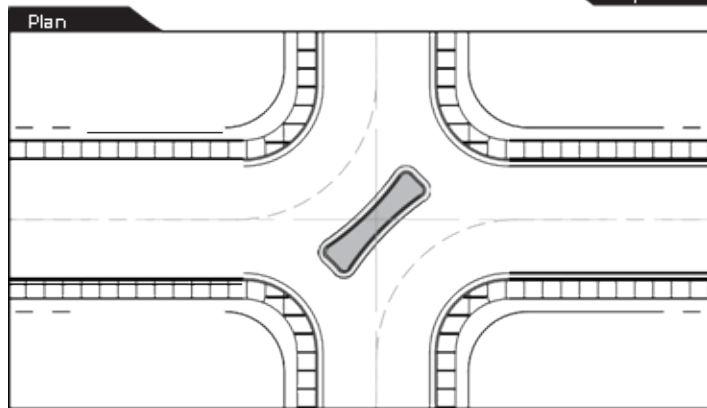
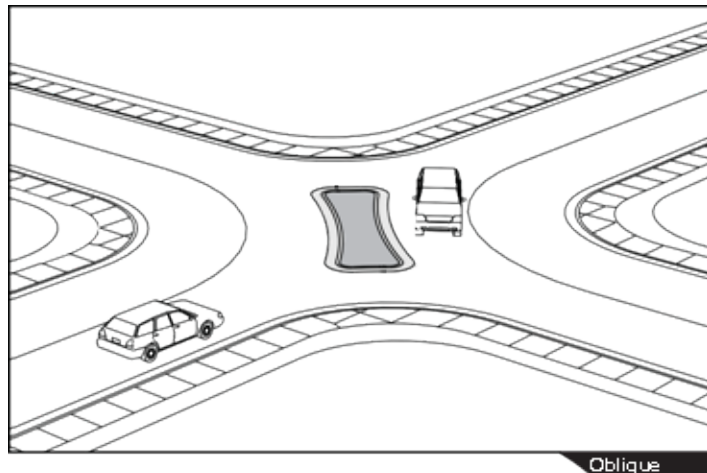
Depending on the type and location of the semi-diverter, utilities may be impacted and require relocation.

Advantages

Semi-diverters can improve safety by restricting turning movements and can reduce traffic volume on a cut-through route. Semi-diverters can be designed to accommodate bicyclists making all movements.

Disadvantages

Semi-diverters limit turning and access. Implementation of a semi-diverter may require a wider street to accommodate traffic. Parallel streets may experience an increase in diverted traffic.



Can be used on local streets	Yes
Can be used on collector streets	No
Reduces traffic	Yes
Reduces speeds	Maybe
Reduces noise	Yes
Improves safety	Yes
Restricts traffic access	Yes
Slows emergency response	Yes
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Maybe
Approximate cost	\$8,000 to \$25,000

Cul-de-Sac

INTERSECTION DEVICE

An intersection cul-de-sac prevents cut-through traffic by blocking a road at an intersection.

Design Considerations

The implementation of a cul-de-sac also requires approval from the fire and sanitation departments as it impacts access.

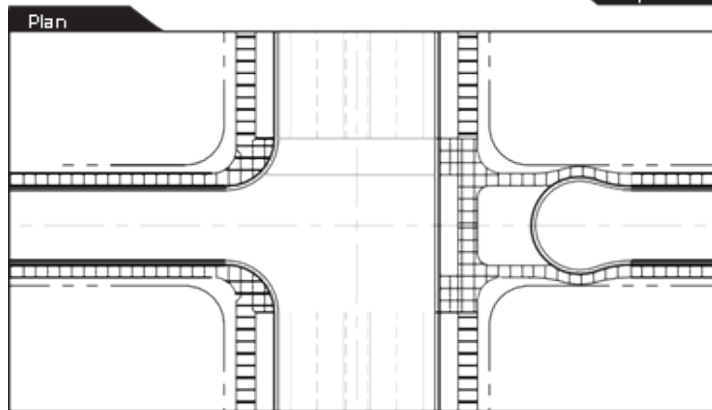
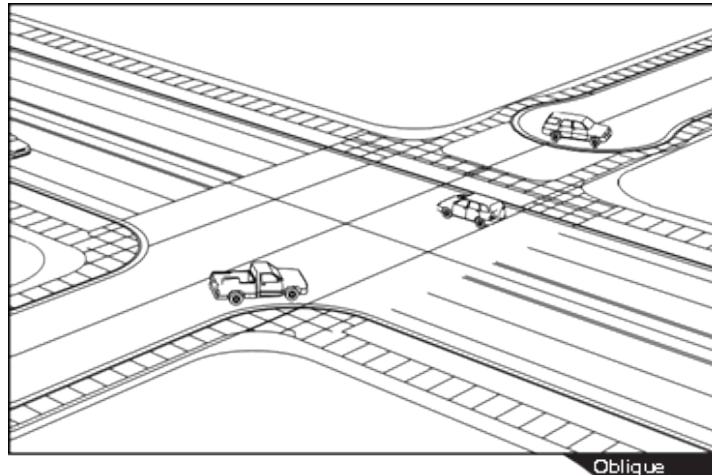
Utilities may be impacted and require relocation. Problems related to drainage may also result. Curb, gutter, and sidewalk are likely to require relocation. Additional right-of-way may be needed for a proper cul-de-sac turnaround.

Advantages

An intersection cul-de-sac effectively blocks cut-through traffic and slows traffic speeds.

Disadvantages

Speed reduction occurs only on the street that is closed. Cul-de-sacs have a high cost of implementation and may impact utilities and access. Intersection cul-de-sacs can only be implemented on local streets. Transit, emergency service, and sanitation routes may also be impacted by prohibiting through traffic. Traffic will likely be diverted onto other streets.



Can be used on local streets	Yes
Can be used on collector streets	No
Reduces traffic	Yes
Reduces speeds	Yes
Reduces noise	Maybe
Improves safety	Maybe
Restricts traffic access	Yes
Slows emergency response	Yes
Requires maintenance	Yes
Reduces violations	Maybe
Adversely impacts bicyclists	Maybe
Adversely impacts transit	Maybe
Approximate cost	\$25,000 to \$100,000

Neighborhood Traffic Calming Request Form

We, the undersigned, request a traffic study at the location identified. The following signatures, representing six households in the neighborhood, indicate our commitment to follow the City of Tempe's *Neighborhood Traffic Calming Guide*.

	Print Name	Address	Signature	Phone	I volunteer to assist with traffic calming.
1					<input type="checkbox"/>
2					<input type="checkbox"/>
3					<input type="checkbox"/>
4					<input type="checkbox"/>
5					<input type="checkbox"/>
6					<input type="checkbox"/>

Contact Name:		Phone:	
Address:			
Neighborhood Name (if applicable):			
Location of concern:			
What traffic concerns do you have at this location?			

Email the completed forms to TrafficCalming@tempe.gov. Attach additional pages if necessary.