

RESOLUTION NO. 69,164-N.S.

TRAFFIC CIRCLE POLICY

WHEREAS, Berkeley has 62 neighborhood traffic circles, that constitute a half-acre of permeable green space that would otherwise be filled with asphalt; and

WHEREAS, Traffic circles have been shown to reduce the speed of travel as well as reduce the number of collisions involving vehicles, pedestrians, and bicycles at these intersections; and

WHEREAS, Across the country, traffic circles with well-maintained low plantings and central trees are widely encouraged due to their benefits to traffic calming, making circles more visible and their contribution to beautification, neighborhood character, urban greening; and

WHEREAS, The Urban Street Design Guide, a manual developed by the National Association of City Transportation Officials (an association of over 71 major North American Cities and 10 transit agencies) notes the value of trees and other vegetation not only for beautification, but for their contribution to traffic calming and

WHEREAS, Other San Francisco Bay Area and North American cities and expert analysts beyond Berkeley have identified trees as a welcome and useful component of traffic circles, particularly because they help slow traffic and identify for drivers the presence of a circle from a distance; and

WHEREAS, The climate and biodiversity crises, including recent recognition of bird and insect declines, necessitate the support of trees, native plants, and other high value habitat in city spaces.

WHEREAS, Berkeley has numerous policies and plans that support traffic circles for traffic calming and other environmental and community benefits such as the Climate Action Plan, General Plan, Pedestrian Plan and Bicycle Plan; and

WHEREAS, The City Council established the Traffic Circle Task Force on February 26, 2019 with the charge of evaluating the current traffic circle vegetation policy, recommending appropriate characteristics for allowed plantings, and a policy that ensures sight lines for visibility, pedestrian, bicycle and vehicle safety, as well as beautification of the circles; and

WHEREAS, The City Council wishes to emphasize the importance of pedestrian and bicyclist safety, and that pedestrian and bicyclist safety is to be considered during review of policies relating to traffic circles.

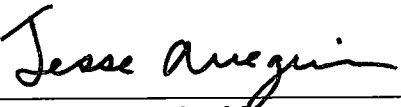
NOW THEREFORE, BE IT RESOLVED that the Berkeley City Council adopts the Traffic Circle Policy in Exhibit A.

The foregoing Resolution was adopted by the Berkeley City Council on November 12, 2019 by the following vote:

Ayes: Bartlett, Davila, Droste, Hahn, Harrison, Kesarwani, Robinson, Wengraf, and Arreguin.

Noes: None.

Absent: None.



Jesse Arreguin, Mayor

Attest: 

Mark Numainville, City Clerk

Exhibit A

Traffic Circle Policy

PURPOSE

The purpose of this new policy is to identify the appropriate design, vegetation and operation characteristics of traffic circles that provide both traffic calming, beautification and other benefits while maintaining pedestrian safety.

As proposed and documented in numerous City of Berkeley plans, programs and policies, the primary purpose of neighborhood traffic circles is for traffic calming. This purpose is important to highlight so that traffic circle elements, as well as additional, complementary safety measures are designed to support traffic calming and pedestrian safety goals. Many cities around the country and in California incorporate vegetation and trees in traffic circles as part of traffic calming measures. Excess speed causes one in three traffic deaths¹, comparable to drunk driving. The goal of this policy is to develop guidelines ensuring that traffic circle vegetation and trees are maintained to conform to safety standards, thereby enhancing, rather than reducing, neighborhood safety.

GRANDFATHERING EXISTING TREES

Berkeley has a variety of existing trees in its traffic circles, such as Coast Live Oaks, California Buckeyes, Dawn Redwoods, Olives, and other trees. All existing trees that are structurally safe are permitted by this policy². For trees with trunks that exceed 20" in diameter see the section "TREE TRUNKS WIDER THAN 20 INCHES" below, which outlines how additional traffic calming measures will be incorporated into the traffic circle intersection to ensure safety.

VEGETATION AND NEW TREES

Beautiful, healthy, and well-maintained vegetation and trees in traffic circles supports Berkeley's neighborhood quality of life and contributes to traffic calming. Circle plantings should be durable, diverse, attractive and planted and maintained by community volunteers. Volunteer participation adds to the unique character of our neighborhood and creates strong resident commitment to our urban communities. Planted circles improve storm water retention and are strongly encouraged to use native or other plant species that do not require pesticides or herbicides to maintain them. Traffic circles should be planted with consideration of vegetation and tree's mature shape and size and sightline requirements. There are several suggested palettes for those who find suggestions helpful (see Attachment 3 of the November 12, 2019 report from the Traffic Circle Policy Task Force).

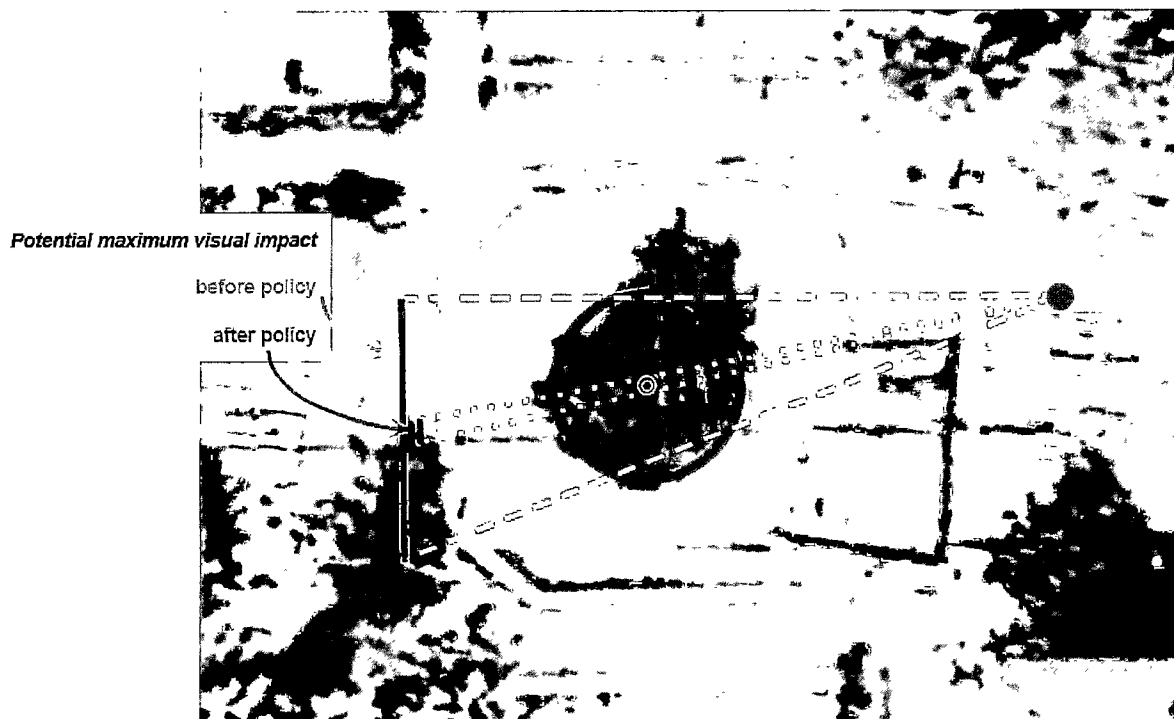
¹ *Motor Vehicle Crash Deaths: How is the US doing?* (Centers for Disease Control and Prevention)

² Designated historic resources are regulated by the Landmarks Preservation Ordinance, and may have features that do not conform to these policies. In case of conflict, the city shall follow established procedures for alterations to a designated landmark. Landmarks Ordinance prevails.

SIGHTLINES

Visual sight lines – the unobstructed view of the driver³ stopped before entering the near crosswalk to the corners of the opposite crosswalk [see illustration below] – should guide all vegetation selection and maintenance criteria. Based on the City of Berkeley's Traffic Engineer's opinion and researched best practice, low vegetation should be maintained at a maximum height of 24" from the top of the traffic circle planter curb and a mature tree canopy should be pruned and trimmed up to and maintained at 7-8 feet height above the top of the traffic circle planter curb. Limbs that extend beyond the curb should be trimmed to 14 feet above the adjacent road surface within the road right-of-way. Single tree trunks that are less than 20" in width, as measured 4 feet above the ground, do not require any additional traffic calming devices. Low branches on young trees and/or flower stalks extending above the 24" maximum height shall be permitted as long as the total visual obstruction above 24" is no more than 20" across the circle.⁴⁵

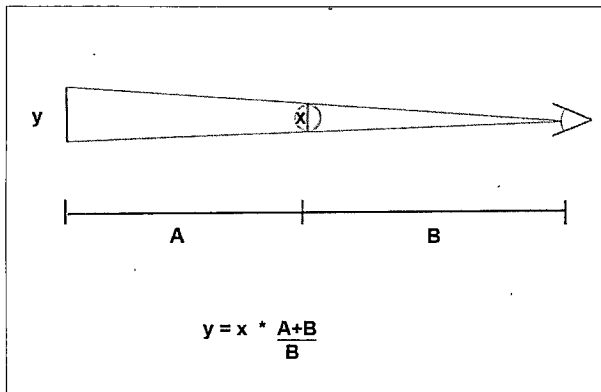
Figure X. Traffic Circle Sightlines and Geometry



³ By national standards it is assumed that drivers' eyes are at three and a half feet and ability to see an object one foot tall on the ground.

⁴ A tree in the center of a traffic circle can only create a visual impact when objects are on directly opposite sides of the circle. These specifications to trunk size and vegetation height provide a conservative safety margin for visual impacts.

⁵ Sight lines are defined as that horizontal plane (called the sight triangle), from the view of the driver stopped before entering the crosswalk to the corners of the opposite intersection, from 24 inches above the top of the traffic circle planter curb line to the height of 7-8 feet.



TREE TRUNKS WIDER THAN 20 INCHES

Tree trunks wider than 20 inches will be permitted with additional traffic calming measures, such as speed tables or cushions⁶, diagonal diverters or flashing beacons to ensure slow speeds, additional stop signs or traffic mirrors to increase visibility,^{7,8} established around the intersection. City staff and neighborhood traffic circle volunteers will work together to determine what measures are needed and which ones are best suited for installation. Where funding restrictions are a significant restriction, traffic circle coordinators or volunteers will be given a reasonable amount of time for community fundraising to offset the cost of additional traffic calming measures.

SUMMARY OF POLICY RECOMMENDATIONS

Neighborhood communities and traffic circle volunteers care a great deal for their circle plantings and should be provided an opportunity to bring their trees and vegetation into conformance with the sight line maintenance guidelines within 30 days following notice of adoption or, in the future, of non-compliance. The Forestry Supervisor may provide guidance on how best to prune vegetation and trees to accomplish the sight lines or to suggest alternative plantings whose growth patterns would naturally conform. The Urban Forestry Unit of the Parks Division, will maintain the tree branches above the travelled way to ensure they are at least 14 feet from the road surface.

⁶ The Federal Highway Administration website provides data summarizing studies on engineering countermeasures used to manage speeds and lists the speed reductions for different kinds of traffic calming measures. Per the extensive table, Speed Cushions and Tables reduce the 85th %tile Speed by 5 to 9 mph. (US Department of Transportation/Federal Highway Administration. Engineering Speed Management Countermeasures: A Desktop Reference of Potential Effectiveness in Reducing Speed, July 2014)

⁷ <https://www.nationalsafetymirror.com/driveway-mirror-traffic-mirrors/>

⁸ The trees in the traffic island at Woolsey & Wheeler should be exempted from these rules due to the unique shape of the traffic island, its location outside of the actual intersection, and the presence of traffic dividers.

The City supports community volunteer contributions and recognizes and acknowledges that community volunteers give a considerable amount of free time to maintain the City's open spaces, including traffic circles. Community volunteers are encouraged to contribute in a safe and reasonable manner and to follow guidelines developed by the Community Common Space Stewardship Program.

Summary of Policy Recommendations for Traffic Circle Vegetation:

- The primary purpose of neighborhood traffic circles is for traffic calming.
- Sightlines should be maintained at a maximum height of 24 inches from the top of the traffic circle planter curb and a mature tree canopy should be pruned up to 7-8 feet above the traffic circle planter curb.
- Trees and other vegetation that conform with sightline and pruning maintenance are allowed. Total vegetation and signage extending above the 24 inch height maximum should not exceed a 20 inch wide solid sight obstruction.
- Trees with trunks wider than 20 inches will be permitted with additional traffic calming measures established around the intersection to ensure low speeds and safe intersections. City staff and neighborhood traffic circle volunteers will work together to determine what measures are needed and which ones are the most appropriate for installation.
- Traffic circle volunteers will be provided an opportunity to bring trees and vegetation into conformance with the sightline maintenance guidelines within 30 days following notice⁹ of non-compliance, before the City undertakes maintenance to bring the circle vegetation or trees into sightline compliance.
- The City should develop and implement consistent traffic circle signing and speed limit standards for the Program which will be implemented as soon as feasible.

⁹ Notice of non-compliance is a standard vegetation maintenance enforcement procedure. It is recommended that the notice be sent via the Stewardship Program.