



Kate Harrison  
Councilmember District 4

CONSENT CALENDAR  
October 27, 2020

To: Honorable Mayor and Members of the City Council  
From: Councilmember Harrison and Councilmember Bartlett  
Subject: Resolution Adopting the 2020 Traffic Circle Vegetation Policy and Maintenance Plan

RECOMMENDATION

1. Adopt the 2020 Traffic Circle Vegetation Policy and Maintenance Plan as revised by the Facilities, Infrastructure, Transportation, Environment & Sustainability Policy Committee.

POLICY COMMITTEE RECOMMENDATION

On September 16, 2020, the Facilities, Infrastructure, Transportation, Environment & Sustainability Committee adopted the following action: M/S/C (Harrison/Robinson) to send the item to Council with a positive recommendation, as submitted by staff, and as further revised by the committee to include: 1. That this policy be reviewed every five (5) years. 2. Tree standards will be refined overtime to meet the needs of the traffic circles. 3. If any trees are to be removed, the policy is to replace the tree with a more appropriate tree when possible. 4. If a tree is to be removed and it can be successfully replanted, it shall be. Vote: All Ayes.

BACKGROUND

On November 12, 2019, the City Council referred the following language from the proposed Traffic Circle Policy to the Facilities, Infrastructure, Transportation, Environment & Sustainability Committee for consideration: "New trees proposed by traffic circle coordinators or volunteers will be approved by the City Forester, with a preference for natives and a focus on maximizing ecosystem services. The Task Force recommends revisiting trunk size considerations every five years as the implications of climate change and autonomous vehicles become clearer. In the interim, large trunked trees such as redwoods will not be planted."

The Public Works Department together with key community members of the former Traffic Circle Policy Task Force have completed their work on developing an additional

Traffic Circle Policy entitled the *2020 Traffic Circle Vegetation Policy and Maintenance Plan*.

The *2020 Traffic Circle Vegetation Policy and Maintenance Plan* addresses the referral by including the frequency of inspection and the requirements for consideration of new trees utilizing the Urban Forestry Unit's current process and requirements.

On September 16, 2020, the Facilities, Infrastructure, Transportation, Environment & Sustainability Policy Committee voted to send the policy to Council with a positive recommendation, as submitted by staff, and as further revised by the committee to include:

1. a requirement that the policy will be reviewed every five (5) years;
2. clarification that if a tree must be removed from a circle and can be transplanted it shall be transplanted.
3. Clarification that the City's policy shall be to place a more location-appropriate tree in the circle where a tree has been removed, if possible; and,
4. clarification that Tree Planting Location Standards shall be refined over time to be more specific for traffic circle locations.

Public Works staff indicate that they are in the process of recruiting new volunteers for unadopted circles by sending mailers to all addresses within 300 feet of the unadopted circle. Staff will also work with existing volunteers to ensure compliance with the new Policy and address any traffic circle issues on a case by case basis (see Attachment 2).

In addition, staff indicate that the City's Adopt-a-Spot website will serve as resource for this program and as a starting point for future volunteer opportunities including adopting and maintaining storm drains. The Public Works Department will continue to work with the City Manager's Office on a long term funding strategy of the Adopt-a-Spot program and with other Departments to identify opportunities to support Community Common Space Stewardship.

#### ENVIRONMENTAL SUSTAINABILITY

Healthy trees sequester carbon dioxide and support myriad species. The revised policy seeks to avoid tree removal wherever possible and supports safe tree maintenance and planting procedures, in support of City climate and ecological goals.

#### FISCAL IMPACTS OF RECOMMENDATION

Staff time will be necessary to administer the new policy.

CONTACT PERSON

Councilmember Kate Harrison  
510-981-7140

ATTACHMENTS

1. Resolution Adopting the 2020 Traffic Circle Vegetation Policy and Maintenance Plan
2. September 8, 2020 Memo to the FITES Committee from Public Works Director Liam Garland Re: Traffic Circle Policy and Program Recommendations
3. Traffic Circle Policy Task Force Traffic Circle Policy and Program Recommendations

RESOLUTION NO. ##,#### N.S.

ADOPTING THE 2020 TRAFFIC CIRCLE VEGETATION POLICY AND  
MAINTENANCE PLAN

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 adopted the Traffic Circle Policy, Resolution No. 69,164-N.S., on November 12, 2019 and referred to the Facilities, Infrastructure, Transportation, Environment & Sustainability Policy Committee to further consider certain traffic circle policies; and

WHEREAS, The Public Works Department together with key community members of the former Traffic Circle Policy Task Force have completed their work on developing an additional Traffic Circle Policy entitled the *2020 Traffic Circle Vegetation Policy and Maintenance Plan*; and

WHEREAS, the Committee voted on September 16, 2020 to send the plan to Council with a positive recommendation, as submitted by staff, and as further revised by the committee; and

WHEREAS, The purpose of the 2020 Traffic Circle Vegetation Policy and Maintenance Plan is to identify the appropriate type of vegetation and its maintenance for traffic circles that provide traffic calming, beautification, environmental, and other benefits while promoting visibility and enhancing neighborhood safety; and

NOW THEREFORE, BE IT RESOLVED that the Berkeley City Council adopts the 2020 Traffic Circle Vegetation Policy and Maintenance Plan in Exhibit A.

Exhibits:

A: 2020 Traffic Circle Vegetation Policy and Maintenance Plan



## City of Berkeley – Public Works

### 2020 Traffic Circle Vegetation Policy and Maintenance Plan

*Based on Resolution 69,164-N.S. and the Annotated Agenda of the Special Meeting of the Berkeley City Council on 11/12/2019<sup>1</sup>, and replaces the 2012 Traffic Circle Planting Policy*

**The purpose of this new policy is to identify the appropriate type of vegetation and its maintenance for traffic circles that provide traffic calming, beautification, environmental, and other benefits while maintaining pedestrian safety.** The goal of this policy is to develop guidelines ensuring that traffic circle vegetation and trees are maintained to conform to safety standards to promote visibility and enhance neighborhood safety. This policy will be reviewed every five (5) years.

#### Ongoing Vegetation Maintenance:

Vegetation shall be maintained to not exceed a maximum height of 24 inches from the top of the traffic circle planter curb.

Vegetation Maintenance includes:

- Weeding
- Debris and trash removal
- Pruning to maintain 24" height

#### New Vegetation Plantings:

Traffic Circle plantings should be durable, diverse, and attractive. New plantings must be drought-tolerant and fully grown be 24 inches or less above the traffic circle curb. Good examples are plants from California and other Mediterranean climates around the world. Plantings should conform to Bay-Friendly Landscape Guidelines<sup>2</sup> and support pollinators. Plantings with spines or thorns (e.g. cacti), vegetables, or fruits are not permitted. Hoses are considered a trip hazard and a road hazard, and are not permitted for irrigation of traffic circles. No use of pesticides or herbicides will be allowed for maintenance.

Traffic circles should be planted with consideration of sightlines and vegetation size and shape at maturity. In addition, a simple Planting Guide for native and pollinator friendly plants was created by the Traffic Circle Task Force. Plants that are on the Planting Guide do not require submittal of a plant list for approval. New proposed Planting List must be submitted to [adoptaspot@cityofberkeley.info](mailto:adoptaspot@cityofberkeley.info) for review and approval when significant revegetation of an existing traffic circle is proposed.

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<sup>1</sup> The adopted resolution was based on community input gathered before and as part of the Traffic Circle Policy Task Force who met regularly from June 2019 through November 2019 and included subcommittees on Vegetation, Operation and Maintenance, and Policy Alignment.

<sup>2</sup> Bay-Friendly Landscape Guidelines from ReScape can be found here: <https://rescapeca.org/resources/for-community-leaders-landscape-professionals/landscape-standards/>

Traffic circles with Green Infrastructure<sup>3</sup> will be planted and maintained by the City of Berkeley or their designated representatives to ensure compliance with engineered planting plans to support water quality. Future green infrastructure installations will be communicated to the neighboring community with opportunities for community input.

Vegetation Maintenance and Planting activities will be performed according to the Traffic Circle Vegetation Policy and Maintenance Agreement and Resolution 69,194-N.S. from the City of Berkeley. Traffic Circles are in the public right of way and may require traffic control for volunteer safety. Maintenance and planting activities can be performed as part of scheduled volunteer events and on an as needed basis. Additionally, in some Traffic Circles, there is City and other Utility infrastructure including maintenance holes. To avoid any incidental damage to plantings, the 1.5 feet around the maintenance hole should be free of vegetation and crews will need a clear path to walk to the maintenance hole. In addition, prior to planting, volunteers will need to contact 811 to avoid disturbing underground utilities - <https://www.usanorth811.org/>.

#### **Ongoing Existing Tree Maintenance:**

All tree work will be performed by City Staff or their contractors. Trees with trunks wider than 20 inches will be evaluated for structural safety every three (3) years. Mature tree canopies will be trimmed to provide a minimum height of 7 feet above the top of the traffic circle planter curb. Tree Limbs that extend beyond the curb will be trimmed to provide a minimum height of 14 feet above the road surface.

Traffic Circles with single tree trunks that are less than 20 inches in width, as measured at the point 4 feet above the ground, do not require any additional traffic calming devices at this time. Single tree trunks wider than 20 inches may be permitted with additional traffic calming measures.

Low branches on young trees and/or flower stalks extending above the 24 inch maximum height above the traffic circle curb shall be permitted as long as the total visual obstruction above 24 inches is no more than 20 inches across the circle. If a tree must be removed from a circle and can be transplanted it shall be transplanted. In any event, the City's policy shall be to place a more location-appropriate tree in the circle where a tree has been removed, if possible.

City of Berkeley will inspect Traffic Circles every six (6) months for compliance with this policy, and will inspect community complaints regarding Traffic Circles within two (2) business days of receipt of complaint.

#### **New Trees:**

Planting of new trees will be considered for traffic circles that do not have utility conflicts. In addition, any proposed locations must adhere to the [Tree Planting Location Standards](#). These standards shall be refined over time to be more specific for traffic circle locations. A [Tree](#)

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<sup>3</sup> Green Infrastructure maintenance and planting guidelines are identified in the City's Green Infrastructure Plan as required by the City's Municipal Regional Stormwater Permit.

[https://www.cityofberkeley.info/Clerk/City\\_Council/2019/06\\_June/Documents/2019-06-18\\_WS\\_Item\\_01\\_City\\_of\\_Berkeley\\_Green\\_Infrastructure\\_pdf.aspx](https://www.cityofberkeley.info/Clerk/City_Council/2019/06_June/Documents/2019-06-18_WS_Item_01_City_of_Berkeley_Green_Infrastructure_pdf.aspx)

[Planting Application](#) must be completed and submitted to [adoptaspot@cityofberkeley.info](mailto:adoptaspot@cityofberkeley.info) for initial review before it is forwarded on to Forestry for final review.

**Volunteer Maintenance and Requirements:**

Landscaped neighborhood traffic circles in Berkeley add beauty, support the environment, and help slow down traffic to make Berkeley a safer place to live. The City wants to continue to engage existing and new community volunteers to maintain traffic circles. All existing volunteers will be required to sign a Volunteer Agreement and Release from Liability within 30 days from publication of this plan and submit to [adoptaspot@cityofberkeley.info](mailto:adoptaspot@cityofberkeley.info) . All new volunteers will also be required to sign the volunteer agreement and release before performing any maintenance activities at a traffic circle.

Traffic Circle volunteers will be responsible for caring for the traffic circle vegetation including weeding, pruning and other routine maintenance; being cautious and visible to traffic while in or near the traffic circle; comply with requirements outlined in this document; ensure traffic circle vegetation adheres to sightline requirements; and adopt a traffic circle for at least six months.

Traffic Circles without volunteers will be planted and maintained by the City until volunteers are in place following the Planting Guide.

City will notify volunteers via mail and a courtesy email if corrective action is needed. Volunteers will have seven (7) days<sup>4</sup> from the date on the mailed notification letter from the City to bring the Traffic Circle into compliance. For any questions, the volunteer should email [adoptaspot@cityofberkeley.info](mailto:adoptaspot@cityofberkeley.info) If not corrected, City Staff or their designee will take corrective action to bring the vegetation into compliance, which may include pruning or removal of vegetation that violates this policy.

In keeping with Title 20 of the Berkeley Municipal Code, no signs are permitted in a Traffic Circle with the exception of City authorized traffic control devices signs. Traffic Circle volunteers may move temporary signage to the parking strips adjacent to the Traffic Circle.

Traffic Circles primary function is for traffic calming, and they are not to be used as parks or for any form of recreation.

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<sup>4</sup> <https://www.codepublishing.com/CA/Berkeley/html/Berkeley12/Berkeley1244/Berkeley1244070.html>

**Adopt a Spot Traffic Circle Volunteers will:**

- Call 911 in the event of an emergency or 510-981-5900 for non-emergencies.
- Work only between sunrise and sunset.
- Wear appropriate protective clothing that could include: work gloves, eye protection, sturdy closed toed shoes, and long pants to prevent injury from sharp objects, insect stings, and sunburn.
- Wear a reflective vest required for working in the public right-of-way. The City will provide one to volunteers if requested.
- Will not plant vegetation that is not on the recommended list without prior authorization from the City.
- Will not wear ear buds or headphones while performing maintenance activities.
- Will not use power tools.
- Will not pick up sharp objects with bare hands.
- Will not touch medical or hazardous waste (including hypodermic needles, automotive fluids, unknown fluids and materials). Report hazardous waste in the public right of way to the City of Berkeley Public Works at 510-981-6620.
- Separate collected materials into recycling, green waste, and garbage cart.
- Dispose of recycling in your residential blue recycling cart or agreed upon cart.
- Dispose of small amounts of trash in your residential grey garbage cart or agreed upon cart.
- Larger amounts of trash placed in orange plastic City-issued bags will be picked up by Public Works if requested. Bags will be supplied upon request.
- Dispose of small amounts of green waste, such as leaves and trimmings, in your residential green cart or agreed upon cart. Larger amounts of green waste placed in City-issued paper bags will be picked up by Public Works. Bags will be supplied upon request.
- Will provide adult supervision at all times to any volunteer under the age of 18.
- Individuals who have not signed a volunteer agreement are prohibited from the Traffic Circle.

Note: The City reserves the right to immediately withdraw support for any volunteer if, at the sole discretion of the City, the volunteer's conduct while participating in volunteer activities on City property or right-of-way is determined to be inconsistent with this Policy or violates any local, state or federal law.





Public Works Department

September 8, 2020

To: Members of the City Council Facilities, Infrastructure, Transportation, Environment & Sustainability Committee

From: Liam Garland, Director of Public Works

Re: Traffic Circle Policy and Program Recommendations

The Public Works Department together with key community members of the former Traffic Circle Policy Task Force have completed their work on developing a new Traffic Circle Policy entitled *2020 Traffic Circle Vegetation Policy and Maintenance Plan* (attached).

On November 12, 2019, the City Council referred the following language from the proposed Traffic Circle Policy to the Facilities, Infrastructure, Transportation, Environment & Sustainability Committee for consideration: “New trees proposed by traffic circle coordinators or volunteers will be approved by the City Forester, with a preference for natives and a focus on maximizing ecosystem services. The Task Force recommends revisiting trunk size considerations every five years as the implications of climate change and autonomous vehicles become clearer. In the interim, large trunked trees such as redwoods will not be planted.”

The *2020 Traffic Circle Vegetation Policy and Maintenance Plan* addresses the referral by including the frequency of inspection and the requirements for consideration of new trees utilizing the Urban Forestry Unit’s current process and requirements which can be found here [https://www.cityofberkeley.info/tree\\_planting/](https://www.cityofberkeley.info/tree_planting/).

In addition, the Traffic Circle Task Force members created for the City and the community a wonderful *Planting Guide* (attached) to encourage the planting of native species in Traffic Circles

As previously requested attached is a copy of the traffic controls and existing crash data<sup>1</sup> for the Traffic Circles. The City does not have traffic volumes, condition of tree at time of collisions, condition of vegetation, or other conditions impacting visibility, which inhibits the ability to draw conclusions regarding the impact of vegetation or trees.

<sup>1</sup> <https://www.chp.ca.gov/programs-services/services-information/switrs-internet-statewide-integrated-traffic-records-system>

Page 2  
September 9, 2020  
Re: Traffic Circle Policy and Program Recommendations

Public Works staff will now begin the process of recruiting new volunteers for unadopted circles by sending mailers to all addresses within 300 feet of the unadopted circle. Please see the attached map of adopted and unadopted traffic circles.

Staff will also work with existing volunteers to ensure compliance with the new Policy and address any traffic circle issues on a case by case basis. The Adopt-a-Spot website will be live this month on the City's website as a resource for this program and as a starting point for future volunteer opportunities including adopting and maintaining storm drains.

The Public Works Department will continue to work with the City Manager's Office on a long term funding strategy of the Adopt-a-Spot program and with other Departments to identify opportunities to support Community Common Space Stewardship.

Attachments:

1. 2020 Traffic Circle Vegetation Policy and Maintenance Plan
2. Planting Guide
3. Map of Traffic Circles
4. Crash and Traffic Control data

cc:

Paul Buddenhagen, Deputy City Manager  
Mark Numainville, City Clerk



## City of Berkeley – Public Works

### 2020 Traffic Circle Vegetation Policy and Maintenance Plan

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**New Trees:**

Planting of new trees will be considered for traffic circles that do not have utility conflicts. In addition, any proposed locations must adhere to the [Tree Planting Location Standards](#). A [Tree Planting Application](#) must be completed and submitted to [adoptaspot@cityofberkeley.info](mailto:adoptaspot@cityofberkeley.info) for initial review before it is forwarded on to Forestry for final review.

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Traffic Circles without volunteers will be planted and maintained by the City until volunteers are in place following the Planting Guide.

City will notify volunteers via mail and a courtesy email if corrective action is needed. Volunteers will have seven (7) days<sup>4</sup> from the date on the mailed notification letter from the City to bring the Traffic Circle into compliance. For any questions, the volunteer should email [adoptaspot@cityofberkeley.info](mailto:adoptaspot@cityofberkeley.info) . If not corrected, City Staff or their designee will take corrective action to bring the vegetation into compliance, which may include pruning or removal of vegetation that violates this policy.

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- Wear appropriate protective clothing that could include: work gloves, eye protection, sturdy closed toed shoes, and long pants to prevent injury from sharp objects, insect stings, and sunburn.
- Wear a reflective vest required for working in the public right-of-way. The City will provide one to volunteers if requested.
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- Will provide adult supervision at all times to any volunteer under the age of 18.
- Individuals who have not signed a volunteer agreement are prohibited from the Traffic Circle.

Note: The City reserves the right to immediately withdraw support for any volunteer if, at the sole discretion of the City, the volunteer's conduct while participating in volunteer activities on City property or right-of-way is determined to be inconsistent with this Policy or violates any local, state or federal law.

## Suggestions for Traffic Circle Plantings

In an effort to support city staff, contractors hired to maintain unadopted circles, and the public, members of the former Traffic Circles Task Force reviewed and culled the original list of suggested plantings for traffic circles. The resulting suggestions below are intended for those circles that the city will plant and maintain or for adopted circles where volunteers might want additional suggestions for plantings that provide valuable habitat for insects and birds.











The plants below are suggestions and do not represent a finite prescriptive list. Volunteers may and can use other plants as long as they adhere to height specifications.

All plants are California natives, often native to our region. They have been selected for height requirements, drought-tolerance, and habitat value. They should thrive in full sun with little- to no-water (once established). All plants were checked to be widely available from local nursery and seed supply resources.

There are two lists of plants: Tier One and Tier Two. Each Tier contains 10 suggestions and has been formatted to print on a single sheet, double-sided.

In line with urgings from the Audubon Society, the Xerces Society, the National Wildlife Federation, the California Native Plant Society, and other organizations addressing alarming species decline, Tier One plants focus heavily on CA-native butterfly (caterpillar, or “larval”) host plants. These plants are also valuable sources of pollen and nectar for native bees and hummingbirds. Like most insects, caterpillars are host-plant specific. Since caterpillars are the primary food of most baby birds, planting for caterpillars supports birds. Tier Two suggestions are less focused on butterfly host plants and offers plants that provide valuable pollen and nectar sources for native bees and hummingbirds.


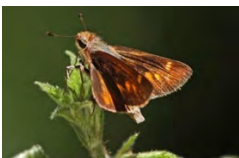






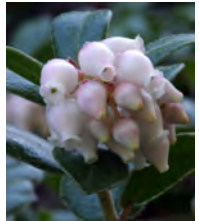

Suggested Plants for Traffic Circles – Tier One (#1-5 of 10)

	Bloom	Plant	Scientific Name	Height	Width	Notes	Wildlife Supported
1		<b>Buckwheat, Coast</b>	Eriogonum latifolium	12-20in	2ft	Compact mound of softly felted blue grey spoon shaped leaves topped by pale pink 1" clusters of flowers blooming summer into fall. Used for erosion control, drought tolerant. Ground nesting native bees scrape fuzz off leaves to use in nest. Loved by bees, butterflies and many pollinators.	 Acmon Blue
2		<b>Buckwheat, Naked</b>	Eriogonum nudum	12-20in	2-3ft	Another keystone Buckwheat. Late blooming, short growing. Drought tolerant, attractive to butterflies and bees.	 Mormon Metalmark
3		<b>Buckwheat, Red</b>	Eriogonum grande var. rubescens	12-20in	2-3ft	Another keystone Buckwheat. Late blooming, short growing. Drought tolerant, attractive to butterflies and bees.	 Silvery Blue
4		<b>California Aster, Point Saint George</b>	Symphotrichum chilensis, 'Point Saint George'	6in	2ft	A low growing vigorous native perennial, reaching up to 6 inches in height and spreading widely. Covered with soft lavender daisies over a long period, summer through fall, often into winter.	 Field Crescent
5		<b>California Lilac</b> (low growing selections)	ex. Ceanothus hearstiorum - San Simeon Ceanothus	3-12in	6ft	Many species and varieties, choose low growing selections. Ceanothus hearstiorum is flat growing, with dark green crinkled leaves and 1" deep blue flower clusters in the spring.	 Pale Swallowtail

**Photo Credits** (from Calscape.org unless otherwise noted): (1) **Coast Buckwheat** (2013 John Doyen)/**Acmon Blue** (2008 Ron Wolf); (2) **Naked Buckwheat** (2016 Steve Matson)/**Mormon Metalmark** (Bill Bouton); (3) **Red Buckwheat** (2006 Steve Matson)/**Silvery Blue** (2014 Ron Wolf); (4) **Aster** (2007 Neal Kramer)/**Field Crescent** (Willem9); (5) **Ceanothus** (2007 Stan Shebs)/**Pale Swallowtail** (2013 Ron Wolf)


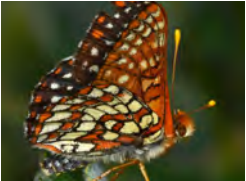
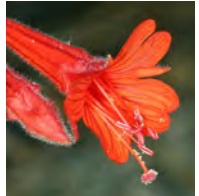









## Suggested Plants for Traffic Circles – Tier One (#6-10 of 10)

	Bloom	Plant	Scientific Name	Height	Width	Notes	Wildlife Supported
6		<b>California Native Bunch Grasses</b> (ex. Creeping Red Fescue, Blue Grama)	ex. Festuca rubra (Molate Pt), Bouteloua gracilis	1-2ft	2-3ft	CA native and non-native grasses support a wide variety of Skipper butterflies (e.g. Umber Skipper, Fiery Skipper, Rural Skipper, and many more). In urban areas mostly on Bermuda Grass.	 Umber Skipper
7		<b>Gumweed</b>	Grindelia stricta var. platyphylla	1-1.6ft	1-2ft	Low herbaceous perennial, 2" sunny yellow daisies, summer to fall. Drought tolerant, but best with some summer water. Valuable pollen and nectar source.	 Native Bees
8		<b>Lippia</b>	Lippia nodiflora	1-4in	2ft	Evergreen perennial flat groundcover. 1/2" flower clusters like tiny lantana in pink and white. Host for Buckeye Butterfly. Attractive to pollinators.	 Common Buckeye
9		<b>Lupine, dwarf</b>	Lupinus nanus, Lupinus bicolor (or any short lupine)	12-18in	1ft	Also called "Sky Lupine". Annual wildflower that turns California fields blue in the spring. Reseeds. Seeds need moisture to germinate, available at Larners Seeds	 Gray Hairstreak
10		<b>Manzanita</b>	Low growing selections (exs. Arctostaphylos 'Emerald Carpet', Arctostaphylos edmundsii 'Carmel Sur', see Notes for more)	6-12in	6ft	Low tidy evergreen groundcovers that are drought tolerant with pink to white small urn shaped flowers winter into spring provide bees with nectar early in season. Edible red berries good for migrating birds. Low growing selections (Low growing: Arctostaphylos uva ursi 'Point Reyes'- Point Reyes Bearberry)	 Bumble Bee




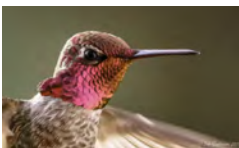






**Photo Credits** (from *Calscape.org* unless otherwise noted): ; (6) **California Red Fescue** (2018 Robert Steers/NPS)/**Umber Skipper** (2011 Ron Wolf); (7) **Gumweed** (2008 Stickpen)/**Dianthidium** (Rusty Burlew, honeybeesuite.com); (8) **Lippia** (2013 Ron Wolf)/**Buckeye** (2015 Gary McDonald); (9) **Lupine** (Lynn Watson)/**Gray Hairstreak** (2014 Ron Wolf); (10) **Manzanita** (2006 Steve Matson)/**Bombus vosnesenskii** (LasPalitas Nursery)

**Suggested Plants for Traffic Circles – Tier Two (#11-15 of 20)**

	Bloom	Plant	Scientific Name	Height	Width	Notes	Wildlife Supported
11		<b>Bush Monkey Flower</b>	Mimulus aurantiacus	2-3ft	3ft	Very drought tolerant. No water once established. Copious blooms. Hummingbirds attracted. Tends to lean but may need some pruning to keep low growing. Pinch to encourage more compact growth.	 Variable Checkerspot
12		<b>California Fuchsia</b>	Zauschneria or Epilobium canum. (Use Low growing selections, such as 'Everett's Choice' or 'Cloverdale')	1-2ft	2-3ft	Fine textured gray green to silver leaves, mounding habit and bright red orange tubular flowers in clusters later summer into fall. Can be winter deciduous. Best hummingbird attracting plant. Drought tolerant.	 Allen's Hummingbird
13		<b>California Poppy</b>	Eschscholzia californica	1-1.5ft	1ft	Perennial grown as Annual. Reseeds. Start from seeds or plants. The state flower of California. Mainstay pollen source for many native bees.	 Bumble Bee
14		<b>Checkerbloom</b>	Sidalcea malviflora	2ft	1ft	Perennial wildflower. Dense low 6" mound of small round scalloped leaves, 12-20" spikes of bright to dark pink 1" flowers in spring. Native larval host plant for Westcoast Lady Butterfly.	 West Coast Lady
15		<b>Daisy, Wayne Roderick</b>	Erigeron glaucus 'Wayne Roderick'	1ft	1-2ft	Pollen and Nectar source for bees. Profusion of 2" lavender daisies with golden centers, easy tough and reliably perennial. Long blooming Spring to Fall with some deadheading. Drought tolerant. Better with some summer water.	 Sweat Bee

**Photo Credits** (from *Calscape.org* unless otherwise noted): (11) **Monkeyflower** (2017 Margo Bors)/**Variable Checkerspot** (2017 Gary McDonald); (12) **Fuchsia** (2015 Steve Matson)/**Allen's Hummingbird** (ca.audubon.org); (13) **Poppy** (2012 Gary McDonald)/**Yellow-faced Bumble Bee** (Sean McCann, ibycter.com); (14) **Checkerbloom** (2010 Gary A. Monroe)/**West Coast Lady** (David Hofmann); (15) **Daisy Wayne Roderick** (2010 Calscape)/**Sweat Bee** (Kathy Keatley Garvey, homeorchard.ucanr.edu)

**Suggested Plants for Traffic Circles – Tier Two (#16-20 of 20)**

	Bloom	Plant	Scientific Name	Height	Width	Notes	Wildlife Supported
16		<b>Farewell-to-Spring</b>	ex. <i>Clarkia amoena</i> , <i>Clarkia williamsonii</i>	1-2ft	12in	Magenta, lavender, pink silky cup shaped flowers in late Spring into Summer. Annual that actively reseeds. Needs good drainage. Appreciates a little supplemental water.	 Leafcutter Bee
17		<b>Bee's Bliss Sage</b>	<i>Salvia</i> x. <i>Bee's Bliss</i>	1-2ft	6-8ft	A beautiful hybrid sage. Excellent ground cover and habitat plant. Grows to around 2 feet high and 6-8 feet wide. Handsome gray foliage topped with a profusion of lavender flowers. A bee and hummingbird favorite. Drought tolerant once established.	 Anna's Hummingbird
18		<b>Phacelia, Bolander's</b>	<i>Phacelia bolanderi</i>	1-1.5ft	0.5ft	Papery inch wide lavender flowers that bloom later than others, late spring thru summer. Perennial groundcover, appreciates some summer water and some shade. Bee pollen and nectar source.	 Mason Bee
19		<b>Phacelia, Great Valley</b>	<i>Phacelia ciliata</i>	4-18in	16in	Beautiful self-sowing annual. Clusters of cupped lavender blue flowers over ferny foliage. Good for bees.	 Membrane Bee
20		<b>Western Yarrow</b>	<i>Achillea millefolium</i>	1-3ft	1-2ft	Choose low growing cultivars. Usually a low spreading ferny leaved perennial with 3-4" clusters of white to pink flowers. Usually full sun, edge of shade under oaks. Attractive to pollinators. Will need pruning if growth gets too high.	 Long-Horned Bee

**Photo Credits** (from *Calscape.org* unless otherwise noted): (16) **Clarkia** (2017 John Doyen)/**Leafcutter Bee** (2014 Linda Dahlbert, bugguide.net); (17) **Bee's Bliss Sage** (calfloranursery.com)/**Anna's Hummingbird** (Bob Gunderson, goldengateadubon.org); (18) **Bolander's Phacelia** (2010 Stickpen)/**Mason Bee** (progardentips.com); (19) **Great valley Phacelia** (2006 Steve Matson)/**Membrane Bee** (Colletidae; planetbee.org); (20) **Yarrow** (2009 H. Zell)/**Long-horned Bee** (Melissodes, laspilitas.com)





# Traffic Circles

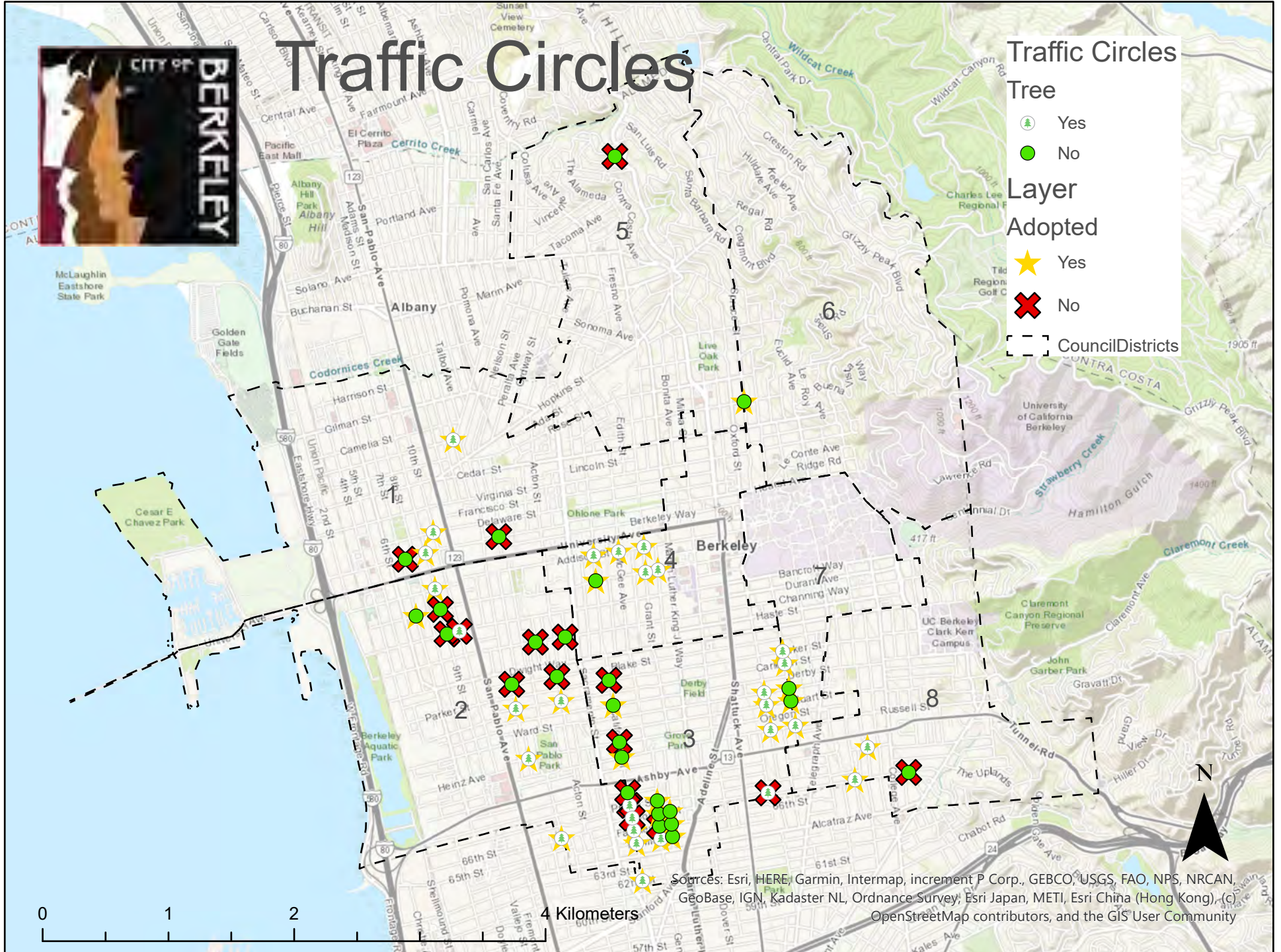
## Traffic Circles Tree

- Yes (Green tree icon)
- No (Red 'X' icon)

## Layer Adopted

- Yes (Yellow star icon)
- No (Red 'X' icon)

## Council Districts



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Traffic Circle	N/S Street	E/W Street	# Crashes	Traffic Volume	Traffic Controls	Presence of Tree	Width of Tree within Sight Line	Height of vegetation at time of crash
1	10th St.	Bancroft Way	1	Unknown	4-way	Yes	Unknown	Unknown
2	10th St.	Delaware St.	1	Unknown	2-way	Yes	Unknown	Unknown
3	7th St.	Allston Way	2	Unknown	4-way	No	Unknown	Unknown
4	7th St.	Hearst Ave.		Unknown	4-way	No	Unknown	Unknown
5	9th St.	Addison St.	2	Unknown	4-way	Yes	Unknown	Unknown
6	9th St.	Allston Way	1	Unknown	4-way	No	Unknown	Unknown
7	9th St.	Bancroft Way	2	Unknown	4-way	No	Unknown	Unknown
8	9th St.	Hearst Ave.	2	Unknown	4-way	Yes	Unknown	Unknown
9	Acton St.	Blake St.		Unknown	4-way	No	Unknown	Unknown
10	Acton St.	Carleton St.		Unknown	2-way	Yes	Unknown	Unknown
11	California St.	62nd St.		Unknown	2-way	Yes	Unknown	Unknown
12	California St.	Addison St.	1	Unknown	4-way	Yes	Unknown	Unknown
13	California St.	Allston Way	6	Unknown	2-way	No	Unknown	Unknown
14	California St.	Derby St.	2	Unknown	4-way	No	Unknown	Unknown
15	California St.	Fairview		Unknown	2-way	Yes	Unknown	Unknown
16	California St.	Harmon		Unknown	4-way	Yes	Unknown	Unknown
17	California St.	Oregon	1	Unknown	4-way	No	Unknown	Unknown
18	California St.	Parker St.		Unknown	4-way	No	Unknown	Unknown
19	California St.	Prince St.		Unknown	4-way	Yes	Unknown	Unknown
20	California St.	Russell St.	2	Unknown	4-way	No	Unknown	Unknown
21	California St.	Tyler St.	2	Unknown	4-way	No	Unknown	Unknown
22	California St.	Woolsey St.		Unknown	4-way	Yes	Unknown	Unknown
23	Chestnut St.	Hearst Ave.	2	Unknown	4-way	No	Unknown	Unknown
24	Cornell	Page/Santa Fe	1	Unknown	4-way	Yes	Unknown	Unknown
25	Edwards St.	Channing Way	3	Unknown	2-way	No	Unknown	Unknown
26	Ellis	Fairview		Unknown	2-way	No	Unknown	Unknown
27	Ellis	Harmon	1	Unknown	2-way	No	Unknown	Unknown
28	Ellis	Woolsey St.		Unknown		No	Unknown	Unknown
29	Ellsworth	Carleton		Unknown	2-way	Yes	Unknown	Unknown
30	Ellsworth	Parker St.	3	Unknown	4-way	Yes	Unknown	Unknown
31	Ellsworth	Russell St.	1	Unknown	4-way	Yes	Unknown	Unknown

Traffic Circle	N/S Street	E/W Street	# Crashes	Traffic Volume	Traffic Controls	Presence of Tree	Width of Tree within Sight Line	Height of vegetation at time of crash
32	Ellsworth	Stuart	1	Unknown	4-way	Yes	Unknown	Unknown
33	Ellsworth	Ward		Unknown	2-way	No	Unknown	Unknown
34	Fulton	Russell St.		Unknown	4-way	Yes	Unknown	Unknown
35	Fulton	Stuart	2	Unknown	2-way	Yes	Unknown	Unknown
36	Fulton	Ward		Unknown	2-way	Yes	Unknown	Unknown
37	Grant St.	Addison St.	2	Unknown	4-way	Yes	Unknown	Unknown
38	Grant St.	Allston Way	2	Unknown	2-way	Yes	Unknown	Unknown
39	Hillegass St.	Webster St.		Unknown	2-way	Yes	Unknown	Unknown
40	King St.	Fairview		Unknown		No	Unknown	Unknown
41	King St.	Harmon	1	Unknown		Yes	Unknown	Unknown
42	King St.	Prince St.	1	Unknown	4-way	No	Unknown	Unknown
43	King St.	Woolsey St.		Unknown		No	Unknown	Unknown
44	Lewiston	Woolsey St.		Unknown	no control	No	Unknown	Unknown
45	Mabel	66th St.		Unknown	T-intersection / 1-way stop	Yes	Unknown	Unknown
46	Mathews St.	Blake St.		Unknown	4-way	No	Unknown	Unknown
47	Mathews St.	Carleton St.		Unknown	2-way	Yes	Unknown	Unknown
48	Mathews St.	Oregon		Unknown	2-way	Yes	Unknown	Unknown
49	McGee Ave.	Addison St.	3	Unknown	4-way	Yes	Unknown	Unknown
50	McKinley Ave.	Allston Way	3	Unknown	4-way	Yes	Unknown	Unknown
51	Regent	Woolsey St.	1	Unknown	no control	Yes	Unknown	Unknown
52	San Ramon Ave.	San Fernando Ave.	1	Unknown	T-intersection / 3-way	No	Unknown	Unknown
53	Spruce	Vine	4	Unknown	4-way	No	Unknown	Unknown
54	West St.	Channing Way		Unknown	2-way	No	Unknown	Unknown
55	Wheeler	Woolsey St.		Unknown	no control	Yes	Unknown	Unknown
56	King St.	62nd Street		Unknown	2-way	No	Unknown	Unknown

OBJECTID	AccidNo	ID	LOCATION	DIST	DIRECTION	DATE	TIME	COLL_TYPE	INVOLVED	EXTENT	TRAVERSE	REPNO	PRIMARY CONTRIBUTING FACTOR	LIGHTING	NUMO_I		NUMO_KL		DOT1	DOT2	MPC1	MPC2	X	Y
															NJ	D	PARTY1	PARTY2						
5818	12246215100009	0	9th St at Addison St	0	Not Stated	7/12/2013	09:51 PM	Rear-End	Other Motor Vehicle	Property Damage Only		6177594	Driving Under Influence	Dark - Street Lights	0	0	Driver	Driver	South	South	Stopped in Road	Proceeding Straight	562097	4191334
5860	12260210000111	0	Parker St at Ellsworth St	0	Not Stated	7/26/2013	09:00 PM	Other	Other Motor Vehicle	Property Damage Only		6177329	Unknown	Dark - Street Lights	0	0	Not Stated	Driver	Not Stated	South	Proceeding Straight	Proceeding Straight	564861	4190844
5964	12301184600137	0	Chestnut St at Hearst Ave	0	Not Stated	9/5/2013	06:46 PM	Hit Object	Fixed Object	Complaint of Pain		6251942	Unsafe Speed	Daylight	1	0	Driver		North		Proceeding Straight		562604	4191754
6078	1233420020016	0	California St at Allston Way	0	Not Stated	10/8/2013	08:02 PM	Vehicle - Pedestrian	Pedestrian	Severe Injury		6294617	Ped R/W Violation	Dark - Street Lights	1	0	Driver	Pedestrian	South	West	Proceeding Straight	Proceeding Straight	563375	4191403
6106	12343115400144	0	California St at Allston Way	0	Not Stated	10/17/2013	11:54 AM	Vehicle - Pedestrian	Pedestrian	Complaint of Pain		6294560	Ped R/W Violation	Daylight	1	0	Driver	Pedestrian	South	Not Stated	Proceeding Straight	Not Stated	563375	4191403
6114	12344143200057	0	California St at Allston Way	0	Not Stated	10/18/2013	02:32 PM	Broadside	Bicycle	Other Visible Injury		6279724	Auto R/W Violation	Daylight	1	0	Bicyclist	Driver	South	East	Proceeding Straight	Proceeding Straight	563375	4191403
6152	12356112100160	0	Bancroft Way at 9th St	0	Not Stated	10/30/2013	11:21 AM	Vehicle - Pedestrian	Pedestrian	Complaint of Pain		6279743	Ped R/W Violation	Daylight	1	0	Driver	Pedestrian	South	West	Proceeding Straight	Proceeding Straight	562192	4190979
6157	12356173500010	0	Stuart St at Fulton St	0	Not Stated	10/30/2013	05:35 PM	Sideswipe	Bicycle	Complaint of Pain		6279746	Auto R/W Violation	Daylight	1	0	Bicyclist	Driver	West	South	Proceeding Straight	Proceeding Straight	564732	4190414
6248	12380100700126	0	Fulton St at Stuart St	0	Not Stated	11/23/2013	10:07 AM	Broadside	Other Motor Vehicle	Property Damage Only		6305855	Unknown	Daylight	0	0	Driver	Driver	East	North	Making Left Turn	Proceeding Straight	564732	4190414
6311	12405184100099	0	Woolsey St at Regent St	0	Not Stated	12/18/2013	06:41 PM	Broadside	Bicycle	Complaint of Pain		6375111	Auto R/W Violation	Dusk - Dawn	1	0	Driver	Bicyclist	East	South	Proceeding Straight	Proceeding Straight	565438	4189817
6316	12407115000057	0	King St at Prince St	0	Not Stated	12/20/2013	11:50 AM	Broadside	Bicycle	Complaint of Pain		6375119	Unknown	Daylight	1	0	Bicyclist	Driver	South	East	Proceeding Straight	Making Right Turn	563865	4189652
6490	12463183700098	0	California St at Allston Way	0	Not Stated	2/14/2014	06:37 PM	Broadside	Bicycle	Complaint of Pain		6450174	Auto R/W Violation	Dark - Street Lights	1	0	Bicyclist	Driver	South	East	Proceeding Straight	Proceeding Straight	563375	4191403
6545	12486194400098	0	Mcgee Ave at Addison St	0	Not Stated	3/9/2014	07:44 PM	Broadside	Bicycle	Complaint of Pain		6526441	Unknown	Daylight	1	0	Driver	Bicyclist	East	South	Proceeding Straight	Not Stated	563556	4191637
6617	12508213900109	0	9th St at Allston Way	0	Not Stated	3/31/2014	09:39 PM	Head-On	Fixed Object	Property Damage Only		6468753	Driving Under Influence	Dark - No Street Lights	0	0	Driver		North		Making Left Turn		562139	4191175
6781	12569055600157	0	Allston Way at Mckinley Ave	0	Not Stated	5/31/2014	05:56 AM	Head-On	Fixed Object	Property Damage Only		6530477	Unsafe Speed	Dark - Street Lights	0	0	Driver		North		Proceeding Straight		563870	4191489
6792	12573142900058	0	Russell St at Ellsworth St	0	Not Stated	6/4/2014	02:29 PM	Broadside	Bicycle	Other Visible Injury		6541992	Auto R/W Violation	Daylight	1	0	Driver	Bicyclist	North	East	Proceeding Straight	Proceeding Straight	564963	4190250
6803	12578082100003	0	Allston Way at Mckinley Ave	0	Not Stated	6/9/2014	08:21 AM	Sideswipe	Parked Motor Vehicle	Property Damage Only		6541894	Other Than Driver or Ped	Daylight	0	0	Driver	Parked Vehicle	East	Not Stated	Proceeding Straight	Parked	563870	4191489
6882	12606200200033	0	Oregon St at California St	0	Not Stated	7/7/2014	08:02 PM	Other	Non-Collision	Complaint of Pain		6594854	Unsafe Speed	Daylight	1	0	Bicyclist		East		Making Left Turn		563563	4190118
7037	12665120400122	0	Mcgee Ave at Addison St	0	Not Stated	9/4/2014	12:04 PM	Sideswipe	Other Motor Vehicle	Property Damage Only		6682823	Improper Turning	Daylight	0	0	Driver	Parked Vehicle	South	South	Parking Maneuver	Parked	563556	4191637
7190	12708231500106	0	Spruce St at Vine St	0	Not Stated	10/17/2014	11:15 PM	Hit Object	Fixed Object	Property Damage Only		6734651	Unsafe Speed	Dark - Street Lights	0	0	Driver		North		Proceeding Straight		564553	4192828
7192	12709093900159	0	Spruce St at Vine St	0	Not Stated	10/18/2014	09:39 AM	Head-On	Fixed Object	Property Damage Only		6734659	Unsafe Speed	Daylight	0	0	Driver		East		Proceeding Straight		564553	4192828
7259	12729184800009	0	Parker St at Ellsworth St	0	Not Stated	11/7/2014	06:48 PM	Sideswipe	Bicycle	Complaint of Pain		6796776	Traffic Signals and Signs	Dark - Street Lights	1	0	Driver	Bicyclist	South	West	Proceeding Straight	Proceeding Straight	564861	4190844
7753	12907130100144	0	Allston Way at Mckinley Ave	0	Not Stated	5/4/2015	01:01 PM	Vehicle - Pedestrian	Pedestrian	Complaint of Pain		6998001	Pedestrian Violation	Daylight	1	0	Driver	Pedestrian	West	West	Making Left Turn	Other	563870	4191489
7769	12912172100128	0	Allston Way at Grant St	0	Not Stated	5/9/2015	05:21 PM	Vehicle - Pedestrian	Pedestrian	Other Visible Injury		6998013	Ped R/W Violation	Daylight	1	0	Driver	Pedestrian	North	East	Proceeding Straight	Proceeding Straight	563771	4191472
7859	12949200400015	0	Channing Way at Edwards St	0	Not Stated	6/15/2015	08:04 PM	Head-On	Fixed Object	Property Damage Only		7003935	Unsafe Speed	Dusk - Dawn	0	0	Driver		West		Proceeding Straight		563131	4190955
7976	12987035400086	0	Delaware St at 10th St	0	Not Stated	7/23/2015	03:54 AM	Broadside	Parked Motor Vehicle	Property Damage Only		7046655	Driving Under Influence	Dark - Street Lights	0	0	Driver	Parked Vehicle	West	Not Stated	Proceeding Straight	Not Stated	562082	4191788
8075	13022110600128	0	Parker St at Ellsworth St	0	Not Stated	8/27/2015	11:06 AM	Sideswipe	Other Motor Vehicle	Property Damage Only		7090937	Improper Passing	Daylight	0	0	Driver	Driver	West	West	Proceeding Straight	Proceeding Straight	564861	4190844
8107	13029073200148	0	Derby St at California St	0	Not Stated	9/3/2015	07:32 AM	Broadside	Bicycle	Complaint of Pain		7117374	Traffic Signals and Signs	Daylight	1	0	Bicyclist	Driver	North	West	Proceeding Straight	Proceeding Straight	563513	4190415
8513	13143155000103	0	Stuart St at Ellsworth St	0	Not Stated	12/26/2015	03:50 PM	Vehicle - Pedestrian	Pedestrian	Other Visible Injury		7181633	Ped R/W Violation	Daylight	1	0	Driver	Pedestrian	West	North	Proceeding Straight	Not Stated	564928	4190448
8547	13156112500026	0	Allston Way at Grant St	0	Not Stated	1/8/2016	11:25 AM	Broadside	Other Motor Vehicle	Property Damage Only		8009365	Unsafe Starting or Backing	Daylight	0	0	Driver	Driver	South	Not Stated	Proceeding Straight	Not Stated	563771	4191472
8611	13181232800149	0	Spruce St at Vine St	0	Not Stated	2/2/2016	11:28 PM	Vehicle - Pedestrian	Pedestrian	Complaint of Pain		8012246	Ped R/W Violation	Dark - Street Lights	1	0	Driver	Pedestrian	South	West	Proceeding Straight	Not Stated	564553	4192828
8670	13200114400128	0	Addison St at Grant St	0	Not Stated	2/21/2016	11:44 AM	Vehicle - Pedestrian	Pedestrian	Other Visible Injury		8319210	Ped R/W Violation	Daylight	1	0	Driver	Pedestrian	South	Not Stated	Making Right Turn	Proceeding Straight	563753	4191671
8782	13234125300038	0	California St at Allston Way	0	Not Stated	3/26/2016	12:53 PM	Head-On	Bicycle	Other Visible Injury		8036930	Traffic Signals and Signs	Daylight	2	0	Bicyclist	Driver	North	West	Proceeding Straight	Proceeding Straight	563375	4191403
8875	13262185700028	0	Tyler St at California St	0	Not Stated	4/23/2016	06:57 PM	Other	Non-Collision	Other Visible Injury		8050057	Unsafe Speed	Dusk - Dawn	1	0	Bicyclist		North		Proceeding Straight		563627	4189714
8993	13297164600066	0	10th St at Bancroft Way	0	Not Stated	5/28/2016	04:46 PM	Rear-End	Parked Motor Vehicle	Property Damage Only		8074835	Driving Under Influence	Daylight	0	0	Driver	Parked Vehicle	North	North	Making Left Turn	Parked	562289	4191004
9476	13454100000051	0	Hearst Ave at Chestnut St	0	Not Stated	11/1/2016	10:00 AM	Sideswipe	Other Motor Vehicle	Property Damage Only		8195465	Unsafe Starting or Backing	Daylight	0	0	Driver	Driver	Not Stated	West	Proceeding Straight	Proceeding Straight	562604	4191754
9477	13454161400009	0	Spruce St at Vine St	0	Not Stated	11/1/2016	04:14 PM	Sideswipe	Parked Motor Vehicle	Property Damage Only		8293275	Unknown	Dark - Street Lights	0	0	Driver	Parked Vehicle	Not Stated	West	Proceeding Straight	Parked	564553	4192828
9515	13466210000015	0	Hillegass Ave at Parker St	0	Not Stated	11/13/2016	09:00 PM	Rear-End	Parked Motor Vehicle	Property Damage Only		8293243	Unsafe Starting or Backing	Dark - Street Lights	0	0	Driver	Parked Vehicle	Not Stated	West	Backing	Parked	565415	4190925
9574	13484093000002	0	Hearst Ave at 9th St	0	Not Stated	12/1/2016	09:30 AM	Broadside	Bicycle	Complaint of Pain		8293025	Auto R/W Violation	Not Stated	1	0	Driver	Bicyclist	South	West	Proceeding Straight	Proceeding Straight	562022	4191623
9672	13513092900111	0	Grant St at Addison St	0	Not Stated	12/30/2016	09:29 AM	Sideswipe	Parked Motor Vehicle	Property Damage Only		8319273	Improper Turning	Daylight	0	0	Driver	Parked Vehicle	North	Not Stated	Parking Maneuver	Not Stated	563753	4191671
9691	13519120700085	0	9th St at Addison St	0	Not Stated	1/5/2017	12:07 PM	Broadside	Bicycle	Complaint of Pain		8308103	Auto R/W Violation	Daylight	1	0	Driver	Bicyclist	East	South	Stopped in Road	Proceeding Straight	562097	4191334
9706	13525224200035	0	Harmon St at Ellis St	0	Not Stated	1/11/2017	10:42 PM	Broadside	Bicycle	Complaint of Pain		8332365	Traffic Signals and Signs	Dark - No Street Lights	1	0	Bicyclist	Driver	South	East	Proceeding Straight	Not Stated	563983	4189366
9916	13594083600012	0	Cornell Ave at Page St	0	Not Stated	3/21/2017	08:36 AM	Rear-End	Other Motor Vehicle	Property Damage Only		8375743	Unsafe Speed	Daylight	0	0	Driver	Driver	South	South	Stopped in Road	Proceeding Straight	562240	4192524
9939	13599114700111	0	Addison St at Mcgee Ave	0	Not Stated	3/26/2017	11:47 AM	Broadside	Bicycle	Other Visible Injury		8375521	Traffic Signals and Signs	Daylight	1	0	Bicyclist	Driver	Not Stated	South	Proceeding Straight	Proceeding Straight	563556	4191637
9961	13605103900122	0	San Ramon Ave at San Fernando Ave	0	Not Stated	4/1/2017	10:39 AM	Sideswipe	Not Stated	Complaint of Pain		8375781	Unknown	Daylight	1	0	Driver		West		Making Right Turn		563526	4194779
9975	13610201600007	0	Russell St at California St	0	Not Stated	4/6/2017	08:16 PM	Vehicle - Pedestrian	Pedestrian	Complaint of Pain		8375594	Unsafe Speed	Dark - Street Lights	1	0	Driver	Pedestrian	West	Not Stated	Making Right Turn	Not Stated	563581	4189999
9997	13616223900022	0	Allston Way at 7th St	0	West	4/12/2017	10:39 PM	Head-On	Parked Motor Vehicle	Property Damage Only		8398081	Unknown	Dark - Street Lights	0	0	Driver	Parked Vehicle	West	East	Proceeding Straight	Parked	561945	4191122
10001	13617171000047	0	Channing Way at Edwards St	0	Not Stated	4/13/2017	05:10 PM	Broadside	Other Motor Vehicle	Property Damage Only		8398089	Auto R/W Violation	Daylight	0	0	Driver	Driver	West	North	Proceeding Straight	Proceeding Straight	563131	4190955
10030	13627024600006	0	Woolsey St at Regent St	0	Not Stated	4/23/2017	02:46 AM	Overtaken	Fixed Object	Complaint of Pain		8398217	Driving Under Influence	Dark - Street Lights	1	0	Driver		East		Proceeding Straight		565438	4189817
10436	13754121600146	0	9th St at Hearst Ave	0	Not Stated	8/28/2017	12:16 PM	Vehicle - Pedestrian	Pedestrian	Other Visible Injury		8482595	Ped R/W Violation	Daylight	3	0	Driver	Pedestrian	East	Not Stated	Proceeding Straight	Proceeding Straight	562022	4191623
10557	13784145500127	0	King St at Harmon St	0	Not Stated	9/27/2017	02:55 PM	Broadside	Other Motor Vehicle	Property Damage Only		8501073	Driving Under Influence	Daylight	0	0	Driver	Driver	East	South	Proceeding Straight	Proceeding Straight	563893	4189350
10967	13903174000001	0	7th St at Allston Way	0	Not Stated	1/24/2018	05:40 PM	Vehicle - Pedestrian	Pedestrian	Complaint of Pain		8614760	Ped R/W Violation	Dusk - Dawn	1	0	Driver	Pedestrian	North	Not Stated	Proceeding Straight	Proceeding Straight	561945	4191122
10995	13914193000119	0	Bancroft Way at 9th St	0	Not Stated	2/4/2018	07:30 PM	Broadside	Other Motor Vehicle	Property Damage Only		8609510	Traffic Signals and Signs	Dark - Street Lights	0	0	Driver	Driver	West	South	Proceeding Straight	Proceeding Straight	562192	4190979
11103	13947000800086	0	Russell St at California St	0	Not Stated	3/9/2018	12:08 AM	Rear-End	Parked Motor Vehicle	Property Damage Only		8643432	Unsafe Speed	Dark - Street Lights	0	0	Driver	Parked Vehicle	West	West	Proceeding Straight	Parked	563581	4189999
11154	13961085000057	0	Derby St at California St	0	Not Stated	3/23/2018	08:50 AM	Vehicle - Pedestrian	Pedestrian	Other Visible Injury		86431												





Traffic Circle Policy Task Force

ACTION CALENDAR  
November 12, 2019

To: Honorable Mayor and Members of the City Council  
From: Traffic Circle Policy Task Force  
Submitted By: Diane Ross-Leech, Chairperson, Traffic Circle Policy  
Subject: Traffic Circle Policy and Program Recommendations

RECOMMENDATIONS

Adopt a resolution to approve the Traffic Circle Policy as outlined below and refer to the traffic engineer for codification.

Integrate the Community Common Space Stewardship Program into the “Adopt a Spot Initiative,” which the City Council approved on April 23, 2019 (Item #33), and request that the City Council refer it to the Traffic Circle Task Force, rather than the Parks and Public Works Commissions, for the purpose of development, outlining criteria and environmental benefits, program costs and staffing.

Refer additional traffic calming measures at Ellsworth for the intersections with Dawn Redwoods to the mid-year budget process and request mitigation funds from EBMUD due to the impact on these streets from their Wildcat Pipeline Project.

Refer to the City Manager:

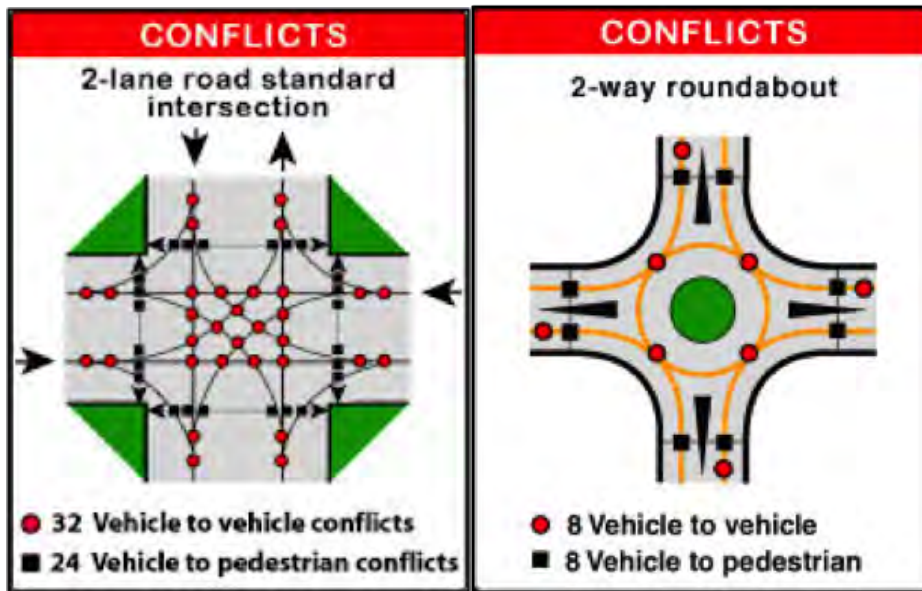
1. Create the Community Common Space Stewardship Program as described below
2. Refer the additional staff and material costs of this program to the budget process.

CURRENT SITUATION AND ITS EFFECTS

Berkeley’s traffic circle policy is being revised with the assistance of the Traffic Circle Policy Task Force, which was established by the Mayor of Berkeley on February 26, 2019 (Attachment 2). The Task Force is composed of interested community members from geographically diverse parts of the city, including Berkeley Partners for Parks, who maintain neighborhood traffic circles. The Task Force was charged with evaluating the current traffic circle vegetation policy, recommending appropriate characteristics for allowed plantings, recommending a policy that ensures sight lines for visibility, and working with the community to update the policy to ensure pedestrian, bicycle and vehicle safety, as well as beautification of traffic circles.



Neighborhood traffic circles are islands in the middle of intersections whose primary purpose is to calm and slow traffic. In contrast, larger circles such as the Marin circle, are designed to facilitate traffic flow and efficiency. Neighborhood traffic circles have been shown to reduce the speed of travel as well as reduce the number of collisions and injuries involving vehicles, pedestrians, and bicycles at these intersections. For example, “the Institute of Traffic Engineers (ITE) states that neighborhood traffic circles have been found to reduce...intersection collisions by up to 70%<sup>1</sup> Seattle WA, which has more than 1,200 circles and adds 5 each year, reports a roughly 90% reduction in collisions.<sup>2</sup> Similarly, Madison WI reports an average decrease of 70%<sup>3</sup>. A major benefit of traffic circles is that they reduce the number of conflict points, or locations where traffic crosses paths, as illustrated in the figures below. For example, vehicles do not need to cut directly in front of oncoming traffic to make a left turn. This tends to eliminate broadside hits, which are often the deadliest intersection crashes.



Comparing conflict points of a Traditional Intersection (left) with those of a Neighborhood Traffic Calming Circle (right).<sup>4</sup>

<sup>1</sup> Lupfer, Patrick. “Neighborhood Traffic Circles - Intersection of South Street and Intervale Road in Brookline, MA” ([Calm Streets Boston](#), April 24, 2012)

<sup>2</sup> Marek, John. “Neighborhood Mini Traffic Circles: Seattle Washington” a case study of Countermeasures on the webpages [BIKESAFE](#) ([pedbikesafe.org](#))

<sup>3</sup> [Neighborhood Traffic Management Plan](#) (City of Madison WI, November 2004)

<sup>4</sup> Lupfer, Patrick. “Neighborhood Traffic Circles - Intersection of South Street and Intervale Road in Brookline, MA” ([Calm Streets Boston](#), April 24, 2012)

Berkeley has 62 neighborhood traffic circles; they represent a significant component of our streetscapes, shaping the safety and character of many neighborhoods, and improving public health while removing a half acre of asphalt. From a national perspective, low plantings and central trees are usual and customary practice for neighborhood traffic circles in cities throughout the country. These cities' policies recommend, encourage and support the inclusion of traffic circles with well-maintained trees and vegetation for their benefits to traffic calming, making traffic circles more visible and contributing to beautification, neighborhood character, and other benefits urban greening provides. Berkeley has numerous policies and plans that support traffic circles for traffic calming and other environmental and community benefits. Traffic circle trees and low vegetation are also recommended in national guidance by the Federal Highway Association and the National Association of City Transportation Officials.

Traffic circles provide many important benefits, including traffic calming and street safety. They also make important contributions to the City's climate, quality of life and social equity goals. Districts 2 and 3 which have the highest number of traffic circles<sup>5</sup> are also the City's most densely populated neighborhoods<sup>6</sup> and have the lowest ratio of parks and open space. Traffic circles ameliorate some of these inequities in urban greening by 1) reducing stormwater runoff and the Urban Heat Island Effect; 2) ameliorating current and projected increases in Extreme Heat Events<sup>7</sup>; and 3) increasing the tree canopy<sup>8</sup> and vegetation diversity in south-side areas. In light of the City's Declaration of a Climate Emergency<sup>9</sup> the Task Force wishes to emphasize that traffic circles contribute to the planted green space of our densely populated City neighborhoods.

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<sup>5</sup> For a map of Berkeley traffic circles, see Appendix B in the Vegetation Subcommittee Report, Attachment 3.

<sup>6</sup> [Population Density in Berkeley](#) (Zip Atlas)

<sup>7</sup> "Extreme heat events are a newly-introduced hazard of concern for the 2019 LHMP... By the end of the century, Bay Area residents may average six heat waves annually, which will average a length of ten days... Berkeley's urban forest...helps to mitigate the impacts of extreme heat events by shading buildings and paved and dark-colored surfaces, such as roads and parking lots that absorb and store heat..." From the first complete draft of the [2019 Local Hazard Mitigation Plan](#) (p. ES-10, B-139, B-149; City of Berkeley)

<sup>8</sup> See Map 34 illustrating the inequitable distribution of tree canopy in Berkeley. "The areas shaded in darker green, predominately in the hills in east Berkeley, have the greatest percentage of tree canopy, while west and south Berkeley have the least, meaning that these buildings and communities will likely not benefit from reduced temperatures provided by urban tree cover." From the first complete draft of the [2019 Local Hazard Mitigation Plan](#) (p. B-154, B-155; City of Berkeley). Or page 6 of the attached Vegetation Subcommittee Report, Attachment 3.

<sup>9</sup> [Endorsing the Declaration of a Climate Emergency](#), Resolution No. 68-486-N.S. (June 12, 2018; City of Berkeley)

In the last five years there have been at least two serious collisions involving cars and pedestrians in the vicinity of traffic circle intersection.<sup>10</sup> In a lawsuit against the City of Berkeley in one case, the plaintiff's attorney alleged that the traffic circle vegetation obstructed the view of an approaching driver and contributed to the collision with a pedestrian. These accidents are the major reason the Task Force was established to develop an updated and well-founded set of policies to guide the establishment and maintenance of traffic circle vegetation.

At the meeting of October 2, 2019, the Traffic Circle Policy Task Force took the following action:

Action: M/S/C (Steere/Grossinger) to approve changes to policy as discussed by members.

Vote: Ayes: Wendy Alfsen, Steven Finacom, Robin Grossinger, Andrew Liu, Linda Franklin Diane Ross-Leech, John Steere, Diana Wood, Sally Hughes.

Noes: None. Abstain: None. Absent: Erin Diehm, Yolanda Huang, Fred Krieger.

## BACKGROUND AND RATIONALE FOR RECOMMENDATIONS

### A. Traffic Circle Task Force Process

The Mayor's office hosted two community meetings on May 15 and May 29, 2019 where all interested community members were invited to participate and learn about the proposed Traffic Circle Policy Task Force, responsibilities, goals, deadlines and how to apply to the Task Force.

The Traffic Circle Policy Task Force held meetings on June 19, July 10, July 31, August 21, September 11 and October 2, 2019 where members of the public, in addition to the Traffic Circle Commissioners, had the opportunity to make public comments and participate in the general discussion. Agendas and minutes from these meetings can be found on the Traffic Circle Policy Task Force page on the city's website.

At its first official meeting, the Traffic Circle Policy Task Force invited the city's Traffic Engineer, Hamid Mostowfi, to address questions from the Task Force Commissioners.

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<sup>10</sup> The Task Force notes that it received no data showing that Berkeley intersections that include traffic circles are associated with higher collision rates. In fact, based on data from other cities we would expect the collision rate to be significantly lower than traditional intersections. At writing no data has been provided to the Task Force comparing Berkeley's rate of collisions in traditional intersections (no circle) with those that have a circle (with and without a tree; before and after installation). We recommend the city conduct such an analysis to allow future iterations of the policy to be based on a better understanding of actual accident patterns.

The Traffic Engineer's primary concern with traffic circles is maintaining sight lines for visibility. With this background and the charge set out by the City Council and the Mayor, the Task Force set up three subcommittees to review Berkeley's own policies and plans as they relate to traffic circles and to gather additional information and research about traffic circles in other cities around the country. The Task Force also met twice with Farid Javandel, Traffic Division Manager.

The Vegetation Subcommittee examined the policies and characteristics of traffic circles in cities around the U. S. and Canada, reviewing standards for traffic circle vegetation in national guidance documents and in published policies of other cities and through interviews with traffic safety experts. In addition, the Vegetation Subcommittee interviewed traffic engineers, landscape architects, and traffic circle administrators from a number of other cities to understand perspectives on traffic circle landscaping. The Subcommittee found that landscaped plantings with trees are standard practice for neighborhood traffic circles in numerous cities across the country and are also recommended in the major national guidelines for traffic safety and urban design. For example, the U. S. Department of Transportation/Federal Highway Administration recommends including vegetation and trees to maximize the traffic calming effect:

*"A traffic circle can simply be a painted area, but it is most effective when it is defined by a raised curb and landscaped to further reduce the open feel of a street. A traffic circle can be landscaped with ground cover flowers, and street trees."<sup>11</sup> (emphasis added)*

Traffic circles planted with trees are considered to contribute to traffic calming by reducing the open feel of the street and increasing the visibility of the circle, particularly at night, resulting in slower traffic speeds. Specifications for the height and clearance of vegetation are generally recommended for low landscaping and trees that provide clear sight lines.

The vegetation subcommittee revealed that specifications for vegetation height ranged from 2 to 5 feet (with our neighbor San Francisco allowing 3 feet<sup>12</sup>) and with tree limbs above 7-8 feet (14 feet if the limbs extend beyond the traffic circle planter curb into the travel lane). Keeping in mind the importance of public safety, the Vegetation Subcommittee used this information to inform the policy described below. (See Attachment 3 for additional details, including photos of traffic circles across 9 cities in the U.S. and Canada)

<sup>11</sup> [Traffic Calming ePrimer – Module 3](#) (U.S. Department of Transportation/Federal Highway Administration)

<sup>12</sup> [SFBetter Streets: A guide to making street improvements in San Francisco](#) (City and County of San Francisco 2015)

The Operation and Maintenance Subcommittee focused its research on successful community volunteer programs in other cities that Berkeley could replicate, such as Oakland's "Adopt a Spot" initiative. The subcommittee relied on previous research prepared by Berkeley Partners for Parks titled "Expanded Berkeley Partners for Parks Proposal to City of Berkeley Regarding Strengthening Volunteer Engagement by Establishing Citywide *Adopt a Spot* Program," (see Attachment 6). The Subcommittee further reviewed websites from various cities, including Oakland, to view program documents. All of the community volunteer programs have a more formal structure for their programs and volunteers than Berkeley. Typical elements include: a volunteer job description used for recruiting purposes; volunteer application or agreement with a minimum term; maintenance rules and guidelines; planting guidelines; and safety rules and guidelines all on the city's websites with easy to use on-line applications and approvals (see Attachment 4 for additional details).

The Policy Alignment Issues Subcommittee reviewed all of the City of Berkeley's applicable plans, policies and programs found on the city's website, as well as some state and regional plans and policies, to determine how the proposed traffic circle policy and actions would intersect. This subcommittee found overwhelming support and alignment among these documents. In particular, the Berkeley Bicycle Plan recommends additional traffic calming improvements along the Bicycle Boulevard network by adding 42 new traffic circles by 2035 (see Attachment 5 for additional details).

The subcommittee's comprehensive reports are Attachments 3, 4, and 5.

Other San Francisco Bay Area (e.g., San Francisco, Palo Alto) 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. For example, the City of San Francisco recommends that:

***"Traffic Calming Circles should be landscaped with trees or plantings. Shrubs and grasses should be planted up to 3 feet tall and trees should be appropriately pruned."***<sup>13</sup> (emphasis added)

These guidelines also allow for more than one tree, specifying the recommended number of trees in relation to circle size:

***"In traffic calming circles with a diameter of less than 15 feet, one tree should be planted in the center. On a traffic calming circle with a diameter greater than 15***

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<sup>13</sup> [SFBetter Streets: A guide to making street improvements in San Francisco](#) (City and County of San Francisco 2015)

*feet, more than 1 tree should be planted and should be equally spaced around the circles.” (emphasis added)<sup>14</sup>*

The Urban Street Design Guide, a manual developed by the National Association of City Transportation Officials (NACTO, 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 also for their contribution to traffic calming. From the NACTO website:

*“Mini roundabouts and neighborhood traffic circles lower speeds at minor intersection crossings... **Shrubs or trees in the roundabout further the traffic calming effect and beautify the street, but need to be properly maintained so they do not hinder visibility.**”<sup>15</sup> (emphasis added)*

Whether community volunteers are experts or novices, everyone needs common sense guidelines for safely maintaining the traffic circles. Most of the cities that support volunteer programs have all of the documents on the city’s website. These guidelines and best practices are important to help ensure that vegetation in traffic circles continues to contribute to traffic calming even as the seasons pass, climate change becomes a greater global issue, and volunteers come and go.

The traffic circle policy emphasizes a strict standard for the height of shrubby and herbaceous vegetation across the traffic circle. Such vegetation has the potential to create a visual barrier to drivers and pedestrians, particularly at the margins of circles where parties are closer to each other. We found that trees in the center area of circles are not considered to be a safety concern in the many other cities examined. Tree trunks create relatively small and momentary visual barriers, and only when parties are on the opposite sides of a circle. However, out of an abundance of caution, we also established guidelines for the width of tree trunks and other narrow vertical vegetation.

With limited time, the Task Force prioritized the development of a vegetation policy and a maintenance program. The following categories represent a good starting point for some of the guidelines that will be needed to support the Traffic Circle Policy and Community Common Space Stewardship Program (traffic circles are only one component of the Program).

#### Guidelines and Best Practices for Traffic Circles:

- General conduct, safety, tools, watering
- Managing sightlines and vegetation
- General layout/design for traffic circles

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<sup>14</sup> Ibid.

<sup>15</sup> [Urban Street Design Guide](#) (National Association of City Transportation Officials 2013)

- Plant maintenance, pruning, weeding, new planting and tree replacement and/or removal
- Integrated Vegetation Management and Pest Control
- Garbage and Debris Removal
- Decorations, boulders, bird feeders, miscellaneous
- Coordinating with Public Works,
- Self-Certification of Compliance with Best Practices
- On-line Arc-GIS/Google Maps traffic circles GIS database

If authorized by Mayor and Council, The Traffic Circle Task Force will continue to work to develop recommended guidelines for many of these categories, relying on best practices and community knowledge and collaboration, and hopes to be able to do so as part of the integrated Community Common Space Stewardship Program / “Adopt a Spot Initiative”.

#### B. Review of Existing Plans, Policies and Programs

The City of Berkeley General Plan directly addresses landscaped traffic circles and encourages their construction for traffic calming.

The 2009 City of Berkeley Climate Action Plan identifies traffic circles as essential to slow or reduce automobile traffic and make walking and bicycling safer. Traffic circles are recognized traffic calming measures on a local street with a complementary benefit of sequestering carbon in trees and plantings.

The Berkeley Pedestrian Master Plan strongly supports the traffic calming benefits and safety improvements provided by traffic circles.

The Berkeley Bicycle Plan supports traffic calming through various measures, including additional traffic circles along major Bicycle Boulevards to slow traffic and improve safety. The Design Specifications of the Plan includes a broad canopy tree in the center of the circle. (See Attachment 3 for the associated illustration.)

The “Vision Zero” Policy initiative is intended to create a transportation system with no fatalities or serious injuries involving road traffic. The Task Force strongly recommends that traffic circles be a part of the pending plan.

There are additional City of Berkeley plans and policies that support traffic circles, and more detail can be found in Attachment 5.

#### C. 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 traffic calming, beautification, climate change mitigation 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 calming traffic and not facilitating its flow, as excess speed causes one in three traffic deaths<sup>16</sup>, comparable to drunk driving. 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. 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 policy<sup>17</sup>. 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).

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<sup>16</sup> [Motor Vehicle Crash Deaths: How is the US doing?](#) (Centers for Disease Control and Prevention)

<sup>17</sup> 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.



New trees proposed by traffic circle coordinators or volunteers will be approved by the Forestry Supervisor, with a preference for natives and a focus on maximizing ecosystem services.

*The Task Force recommends revisiting trunk size considerations every five years as the implications of climate change and autonomous vehicles become clearer. In the interim, large trunked trees such as redwoods will not be planted.*

## SIGHTLINES

Visual sight lines – the unobstructed view of the driver<sup>18</sup> stopped before entering the near crosswalk to the corners of the opposite crosswalk [see Figure X 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 2.5 feet 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 2.5 feet maximum height shall be permitted as long as the total visual obstruction above 2.5 feet is no more than 20” across the circle.<sup>19,20</sup>

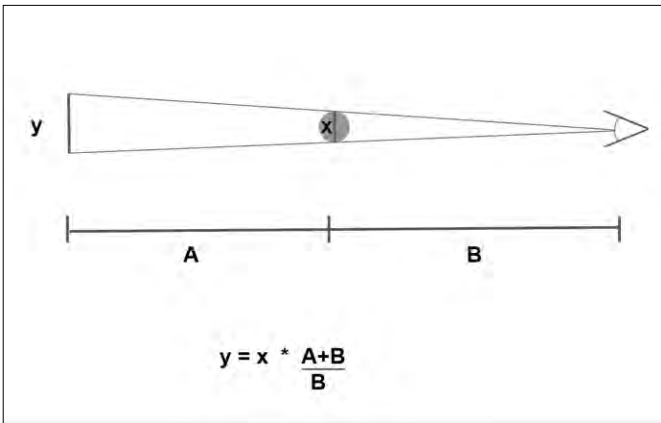
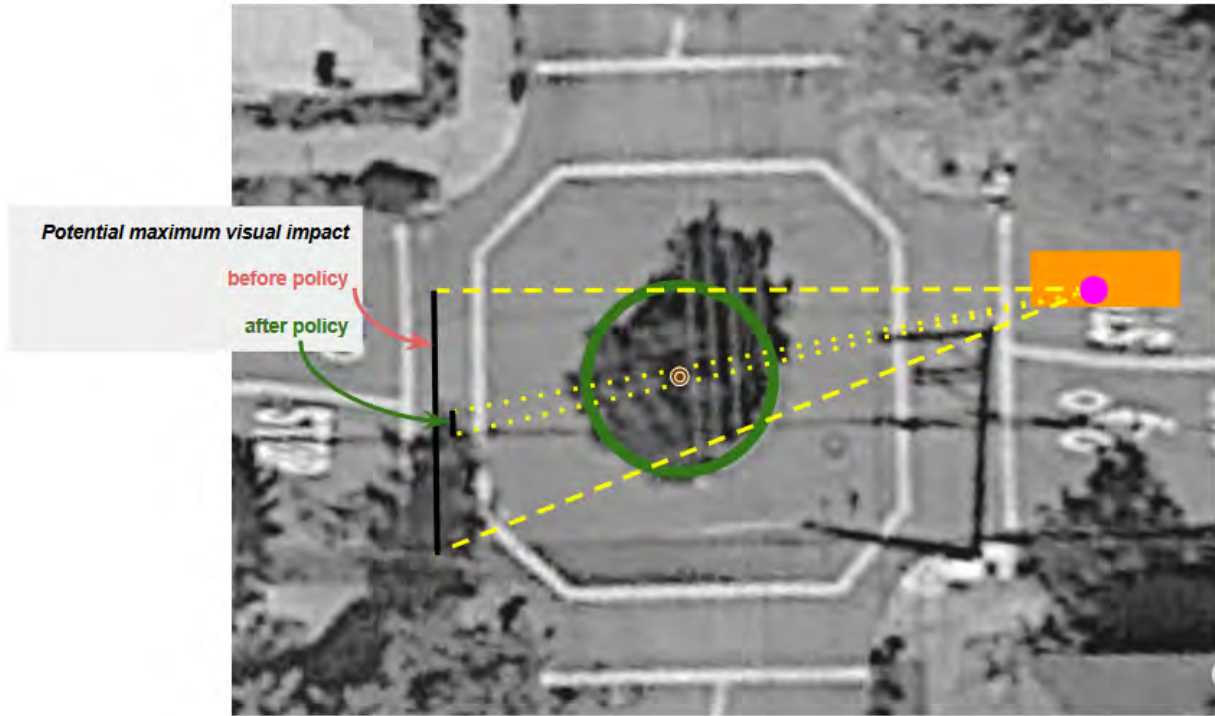
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<sup>18</sup> By national standards it is assumed that drivers’ eyes are at three and a half feet and ability to see an object one foot tall on the ground.[cite?]

<sup>19</sup> 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.

<sup>20</sup> 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 2.5ft above the top of the traffic circle planter curb line to the height of 7-8 feet.

Figure x: Traffic Circle Sightlines and Geometry



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 cushions, diagonal diverters or flashing beacons to

ensure slow speeds<sup>21</sup>, additional stop signs or traffic mirrors to increase visibility,<sup>22,23</sup> 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.

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 2.5 feet 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 to sightline and pruning maintenance are allowed. Total vegetation and signage extending above the 2.5 foot height maximum should not exceed a 20 inch wide solid sight obstruction.

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<sup>21</sup> 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)

<sup>22</sup> <https://www.nationalsafetymirror.com/driveway-mirror-traffic-mirrors/>

<sup>23</sup> 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.

- 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 notice<sup>24</sup> 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.

#### D. Community Common Space Stewardship Program

Berkeley has many engaged community members who volunteer their time and resources. Community volunteers and neighborhoods have been the mainstay of the traffic circles – generously buying plants and giving their time to water and maintain the traffic circles and other common space (i.e. Berkeley Path Wanderers) over the last two decades.

There is no formal mechanism for the City to engage these volunteers or to recruit new ones. There are many existing community-based partnership programs in the San Francisco Bay Area as well as around the country. The City of Oakland's "Adopt a Spot" is a long-standing and successful model that has also served as a template for similar programs in Livermore and Richmond, and is fortunately being considered as a template for the City of Berkeley's Program. A Berkeley Stewardship Program will encourage civic engagement and community improvement

The City can establish and operate a successful partnership program with community volunteers to provide coordination and guidance on safety and technical issues, hosting work days, developing discount programs, and supporting community improvement and agreed upon goals.

Berkeley City leaders expressed their willingness to work with the community and to develop a real partnership with the community by creating and supporting the establishment of the Traffic Circle Policy Task Force. A formal partnership needs a shared commitment and written guidelines, structure, budget and resources to deliver the benefits to both the City and the community.

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<sup>24</sup> Notice of non-compliance is a standard vegetation maintenance enforcement procedure. It is recommended that the notice be sent via the Stewardship Program.

The Traffic Circle Policy Task Force recommends that the Public Works Department, in no less than three months, formalize the existing traffic circle community volunteer program and establish it as a component of the Community Common Space Stewardship Program (Stewardship Program). It is recommended that the Stewardship Program be integrated into the “Adopt a Spot Initiative,” which the City Council approved on April 23, 2019 (Item #33), and that the City Council refer the Adopt a Spot Initiative to the Traffic Circle Task Force for the purpose of developing a coherent and consistent set of guidelines for City/volunteer partnership on volunteer efforts for not just traffic circles but also other City common space, such as medians, bulb-outs, mid-block curb extensions and pocket parks. This Stewardship Program will define responsibilities between City and community volunteers and provide guidance for volunteer responsibilities including selection of plants and trees, maintenance best practices and safety guidelines. The Stewardship Program will also investigate and develop a much needed program analysis including criteria, environmental benefits, program costs and staffing needs.

The goals of the Traffic Circle component of the Community Common Space Stewardship Program include:

- Ensure community engagement and partnership in complying with the Traffic Circle Policy
- Maximizing traffic calming benefits of traffic circles
- Maintain sightline visibility to protect pedestrians and bicyclists
- Expand the network of neighborhood traffic circles to underserved areas

And in addition, the Community Common Space Stewardship Program will:

- Help beautify Berkeley - *Greenery in and along streets makes Berkeley a more beautiful city and is critical to Berkeley’s livability and success as a place*
- Encourage joint activities by neighbors and friends for the betterment of Berkeley
- Provide spaces that capture and infiltrate rainfall and storm water
- Reduce noise pollution through the use of vegetation and trees
- Provide habitat for birds, butterflies, bees, and other native creatures
- Increase carbon sequestration
- Help cool the urban environment

In order to establish and operate a successful partnership program, staff resources are required. Staffing could be provided through the City or through an existing non-profit entity that would be contracted for staff resources (at this point it's not clear if this would be a full-time position or could be part time after the program is set up).

A Traffic Circle Community Engagement Coordinator would report to Public Works and be responsible for coordinating with all existing traffic circle volunteers, recruiting new volunteers, act as a liaison between community volunteers and City staff, coordinate between Public Works, Parks and Recreation and Planning Departments as well as third-party utilities, and develop and maintain an on-line tool for tracking traffic circle compliance and administration. The Coordinator would also be responsible for developing an annual budget, hosting annual work days, provide assistance with technical issues, and develop a plant discount program, free mulch delivery, tool and safety equipment lending library, seeking additional outside funding and a green infrastructure mini-grants program with matching funds and/or in-kind support.

The Coordinator and City leaders should explore consolidating all resources and responsibilities for traffic calming measures (traffic circles, bulb-outs, mid-block curb extensions, traffic diverter replacement/conversions, parklets and other speed calming treatments) as well as supporting the Berkeley Bicycle Plan under the Community Common Space Stewardship Program. The core goal of this position should be nurturing and supporting a Citywide and expanding program of traffic circles that are both beautiful and safe and that make use of community volunteer resources, while also coordinating City staff resources and interests as they apply.

It should be noted that this position could also be defined to coordinate City staff and volunteer stewardship resources (through friends of parks and creeks groups) and efforts associated with maintaining and enhancing city parks, creeks, and open spaces. In this case, additional staff capacity would likely be required.

All of the community volunteer programs that the Traffic Circle Policy Task Force reviewed have a more formal structure for their programs and volunteers. Typical elements include: a volunteer job description used for recruiting purposes, volunteer application or agreement with a minimum term, maintenance rules and guidelines, planting guidelines, and safety rules and guidelines. Public Works should borrow from the best programs, specifically Oakland's "Adopt a Spot," to develop the documents needed to support the program. All Program documents should be maintained on the City's website with easy to use on-line applications and approvals.

This proposed Program and its recommendations are designed in part to reduce City liability and risk from traffic circles. By the same token, the City should be willing to extend protection from liability to neighborhood volunteers who maintain traffic circles

and are in compliance with the Program. The advice of the City Attorney and specialized legal experts on municipal volunteer programs should be sought in formalizing this two-way arrangement.

### *Communication Plan*

The Traffic Circle Policy Task Force's report and recommendations and the City's approval and adoption is only the first step to implementation. Any changes to the status quo will be new and possibly startling to the community. A thoughtful and robust communication plan should be developed and implemented within a set time period in concert with rolling out the new policy and program. Particular attention should be paid to the initial effort to bring existing circles into compliance. Based on a recent photo survey, there are a few traffic circles that have vegetation that will not easily be brought into compliance. For example, some circles have large cacti that cannot be "pruned" to achieve the sightline requirements. The city should consider organizing a large work day to support the removal of non-compliant existing plants and provide support to community members in planting new, better suited vegetation.

The Task Force Commissioners should be given a prominent role to assist the City with explaining the Program through open houses, newsletters, press, social media and neighborhood meetings. This process may also be used to ensure current traffic circle volunteers are identified and new ones recruited.

### *Incentives for Recruiting Volunteers*

Public Works should strive to be seen as an ally and support for the community volunteers with expertise and resources to support them and the Program. Public Works and the Community Engagement Coordinator should investigate incentives to help recruit additional community volunteers, especially in under-represented neighborhoods of the City. These incentives could include: a plant discount program, free mulch delivery, tool and safety equipment lending library, green infrastructure mini-grants program with matching funds and/or in-kind support.

### *On-line GIS Tool*

Public Works and the Community Engagement Coordinator should develop and implement an on-line GIS tool to map all traffic circles and monitor overall compliance with the sight line maintenance guidelines, operation and maintenance guidelines and plant palette guidance.

*Advisory Board*

The Task Force recommends that Public Works establish an advisory board comprised of leaders within Public Works, Parks, Recreation and Waterfront, and Planning Departments and a representative group of relevant Commission representatives and community volunteers to meet periodically to review the Programs progress. Note, we are not suggesting a new commission.

*Annual Compliance Report*

Public Works and the Community Engagement Coordinator should produce an annual report to the Berkeley City Manager, City Council, and the public on overall progress and compliance.

*Additional Traffic Circle Safety Improvements*

The City should inventory all existing traffic circle intersections and develop and implement consistent traffic circle signing and speed limit standards. Effective and safe traffic circles don't end at the curb line. The City should work towards other holistic street improvements and modifications to continue to improve safety at traffic circle intersections. Pedestrians, bicyclists and motor vehicle drivers should be able to expect consistency in City traffic circles operations. It could often be this uncertainty – the driver, bicyclist or pedestrian who doesn't realize they've come to a two-way, not four-way stop sign circle intersection – that increases hazards, not the existence or character of the traffic circle itself or its vegetation.

ENVIRONMENTAL SUSTAINABILITY

The Task Force found overwhelming support and alignment for the recommended action and the city's existing environmental sustainability plans, programs and policies.

Promoting additional tree planting and native drought tolerant vegetation in existing neighborhood traffic circles directly supports the Berkeley Climate Action Plan to restore natural processes, provide habitat for birds and insects, reduce ambient temperatures by shading, intercepting and storing rainwater, improving community quality of life through beautification and by reducing noise pollution and encouraging pedestrian traffic. Increasing the number of neighborhood traffic circles and planting them with trees will help fulfill the stated goals to maximize tree plantings, sequester carbon and protect biodiversity.

Half an acre of forest land can absorb three tons of carbon dioxide annually and produce two tons of oxygen. Berkeley's 62 existing traffic circles cover about half an acre of land, all of it converted from asphalt. The City's Hazard Mitigation Plan and Climate Action Plan recommend more tree plantings in Berkeley to help fight climate



change and reduce the “heat island effect” in lower elevation neighborhoods. Tree plantings are also an economic and social equity issue. City mapping shows that tree cover is much higher in the Berkeley Hills than it is in the Flatlands.

The recommended action is consistent with Berkeley’s history of neighborhood partnership for creating and caretaking traffic circles, as is common in many other cities, and with the goal of increasing green space and tree canopy in neighborhoods with less access to parks and open space.

The recommended action enables neighborhood traffic circles to contribute to the support of native biodiversity within the City, through the habitat contributed by native plants and trees. The Task Force provides several plant palettes of native plant assemblages designed to maximize biodiversity as well as other valuable services such as pollinator support, water conservation, runoff reduction, and carbon sequestration.

#### ALTERNATIVE ACTIONS CONSIDERED

*No Action* Alternative isn’t viable because it doesn’t address traffic safety concerns or provide clarity to the volunteers currently maintaining the existing traffic circles. There’s confusion by the volunteer community about what the rules are for traffic circles, who is responsible for what and if trees in circles are allowed.

*No Trees* Alternative is not recommended because it is contrary to standard practice by many California and national cities, as well as Berkeley plans and policies. There are 37 existing traffic circles that have trees that are maintained by volunteers. The community has already expressed significant concern when the City proposed in the summer of 2018 to remove all trees and other large vegetation in existing traffic circles.

*No Volunteers* Alternative is not recommended because it goes against the spirit of how the City governs. The City has partnered with its citizens on their stewardship of the traffic circles for almost two decades. It is in the City’s interest to formalize and support community involvement to maintain the traffic circles.

*Administrative Department Move* Alternative – to move traffic circle administration from Public Works to Parks, Recreation and Waterfront Department - is not recommended because the Public Works Department is responsible for construction and maintenance of all streets and the right-of-way. The Public Works Department has oversight and approval responsibility for traffic circles including construction, maintenance (in coordination with local community groups), and vegetation.

#### FISCAL IMPACTS OF RECOMMENDATION

The recommended action to develop a formal Stewardship Program with one full time staff in the Public Works Department represents a new cost to the City. The cost will be

the salary and overhead for a full time Community Engagement Coordinator position and the costs to administer the program, including setting up an on-line GIS web-based tool, developing the community volunteer program, finalizing operation and maintenance guidelines, finalizing planting palette guidance, developing a self-certification process, and setting up discount and mini-grant programs. It should be recognized that in the long term, the Stewardship Program/Adopt a Spot will, in fact, be a net cost savings for the City for the maintenance and planting “services” rendered by volunteers that would otherwise have to be performed by City staff or contractors. Having this program would also be advantageous for the City whenever it pursues project grants, as a source of in-kind/match funding.

In the long term, through efficiencies and “normalizing” the work of the program, these start-up costs are anticipated to decrease.

The overall total costs to the City should substantially decrease due to the program reducing injuries and lawsuits, minimizing the safety risks and uncertainty associated with the existing traffic circles. The benefits to establishing a formal, staffed program should greatly outweigh these costs.

CONTACT PERSON

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Attachments:

1. Resolution to Adopt Traffic Circle Policy and Exhibit A
2. February 26, 2019 Berkeley City Council Item
3. September 29, 2019 Vegetation Subcommittee Report
4. July 19, 2019 Operation and Maintenance Subcommittee Report
5. July 19, 2018 Policy Alignment Issues Subcommittee Report
6. Expanded Berkeley Partners for Parks Proposal
7. Draft “Best Practices” Guidelines - Operation and Maintenance Subcommittee

RESOLUTION NO. ##,###-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.

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

## Exhibits:

A: Traffic Circle Policy

**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 deaths<sup>25</sup>, 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 policy<sup>26</sup>. 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

<sup>25</sup> [Motor Vehicle Crash Deaths: How is the US doing?](#) (Centers for Disease Control and Prevention)

<sup>26</sup> 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.

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).

New trees proposed by traffic circle coordinators or volunteers will be approved by the City Forester, with a preference for natives and a focus on maximizing ecosystem services.

*The Task Force recommends revisiting trunk size considerations every five years as the implications of climate change and autonomous vehicles become clearer. In the interim, large trunked trees such as redwoods will not be planted.*

## SIGHTLINES

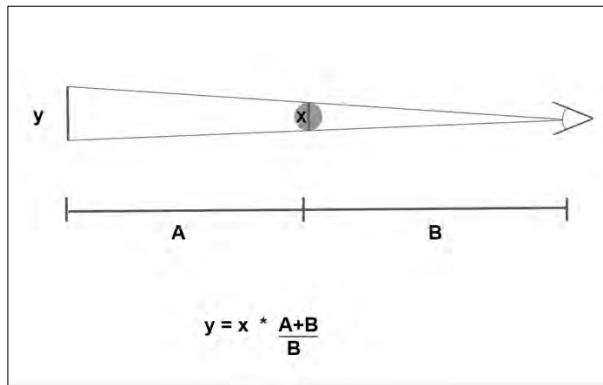
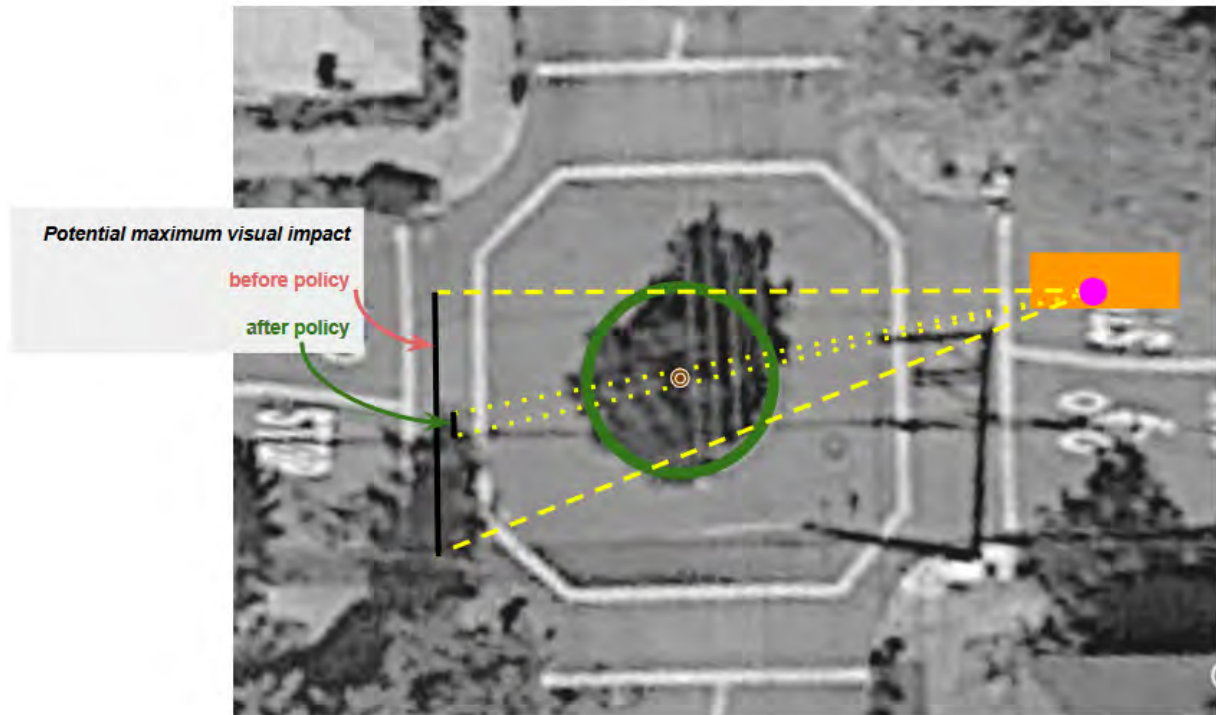
Visual sight lines – the unobstructed view of the driver<sup>27</sup> stopped before entering the near crosswalk to the corners of the opposite crosswalk [see illustration below] – should guide all vegetation selection and maintenance criteria. Based on the City of Berkeley's Traffic Engineer's opinion and researched best practice, low vegetation should be maintained at a maximum height of 2.5 feet 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 2.5 feet maximum height shall be permitted as long as the total visual obstruction above 2.5 feet is no more than 20" across the circle.<sup>28,29</sup>

## Figure X. Traffic Circle Sightlines and Geometry

<sup>27</sup> 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.

<sup>28</sup> 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.

<sup>29</sup> 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 2.5ft 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 cushions<sup>30</sup>, diagonal diverters or flashing beacons to

<sup>30</sup> 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

ensure slow speeds, additional stop signs or traffic mirrors to increase visibility,<sup>31,32</sup> 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.

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 2.5 feet 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 2.5 foot 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.

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Management Countermeasures: A Desktop Reference of Potential Effectiveness in Reducing Speed, July 2014)

<sup>31</sup> <https://www.nationalsafetymirror.com/driveway-mirror-traffic-mirrors/>

<sup>32</sup> 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.

- Traffic circle volunteers will be provided an opportunity to bring trees and vegetation into conformance with the sightline maintenance guidelines within 30 days following notice<sup>33</sup> 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.

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<sup>33</sup> Notice of non-compliance is a standard vegetation maintenance enforcement procedure. It is recommended that the notice be sent via the Stewardship Program.