

Letter  
17

**From:** jonvick@sos-inc.com  
**To:** CAP@sdcounty.ca.gov  
**Subject:** Re: County of San Diego, Climate Action Plan - comments  
**Date:** Tuesday, August 22, 2017 7:29:06 AM

Dear Sirs,

The underlined word "reductions" below was added for clarification.

Thank you and...

Kindest regards,

Jon Vick  
 Valley Center, CA 92082  
 Tel 760-751-0250

-----Original Message-----

From: jonvick@sos-inc.com <jonvick2@aol.com>  
 To: CAP <CAP@sdcounty.ca.gov>  
 Sent: Mon, Aug 21, 2017 11:54 am  
 Subject: County of San Diego, Climate Action Plan - comments

**Comments:** County of San Diego, **Climate Action Plan, Draft** (August 2017)

**Re: Greenhouse Gas Reduction Strategies and Measures; T-2.1: Improve Roadway Segments as Multi-modal**

Dear Sirs,

Noticeably missing from the draft Climate Action Plan (CAP) is the use of roundabouts to reduce GHG emissions.

According to the attached Air Pollution Control District (APCD) document on **Modern Roundabouts**, each roundabout can eliminate 189 metric tons of CO2 emissions annually. Roundabouts should be added to the description in **T-2.1: Improve Roadway Segments as Multi-modal, Description**. As noted in the APCD document, in addition to significant CO2 emission reductions and improved air quality, roundabouts provide other significant multi-modal benefits including increased safety for vehicles and pedestrians, and improved traffic flow.

Also of importance to all San Diego communities, roundabouts, especially when used in sets within a corridor, have been shown to reduce noise by 77% (Source: Walk San Diego).

- Roundabouts result in lower speeds, paving the way for greater place making
- Roundabouts result in reduced noise, speed and danger, and are business friendly, making it easier to park and un-park

- Roundabouts can result in reduced land consumption. In the La Jolla Boulevard example, nearly 40% of the former asphalt was converted to green medians, curb extensions, and other green areas. This resulted in less need for water treatment, and a lowering of ambient air temperatures.

In addition, the **Description** segment should be broadened to allow for the enhancements to extend beyond the "existing paved areas". By focusing only on existing paved areas the CAP will prevent the achievement of the "complete streets" goals for local or regional networks that are the only effective way to induce routine walking and bicycling. With the significant GHG emission reductions that would be provided by roundabouts, some road widening should be allowed, especially in cases where the ROW is

## Response to Comment Letter 17

**Jon Vick**  
**August 22, 2017**

**I7-1** The comment provides emphasis on a phrase in the comment that follows. Please see the response to comment I7-2.

**I7-2** The comment states that roundabouts should be included in the CAP and describes the benefits of implementing roundabouts. The Draft CAP includes GHG Reduction Measure T-2.1: Improve Roadway Segments as Multi-modal. This measure is a County initiative. Implementing multi-modal enhancements as part of a "Complete Streets" approach serves to reduce Vehicle Miles Traveled (VMT) and encourage pedestrian and cyclist trips by creating a more comfortable and safer experience when traveling along public roads. Specific improvements may include: ADA curb ramps, marked crosswalks, countdown signal timers, curb extensions, speed tables, speed humps, raised crosswalks, raised intersections, median islands, tight corner radii, mini-circles, on-street parking, reduced travel lane widths, planter strips with street trees, chicanes/chokers, bike lanes, cycle tracks, and protected bikeways. This could also include the provision of roundabouts. As part of road resurfacing projects, this measure would implement multi-modal enhancements to improve pedestrian comfort on roadway segments, including improvements at intersections and bikeway improvements. Multi-modal enhancements will be implemented where feasible. Such enhancements would occur only within the existing paved areas and would not require any road widening or acquisition of right-of-way.

In addition, the County's 2011 GPU Mobility Element contains policies related to the provision of a road network that is safe, efficient, and that adequately serves the adjacent land uses. The County acknowledges that roundabouts have some benefits including fewer conflict points, and a potential for GHG emissions reductions as a result of reduced idling times. The

	<p>County and Caltrans considers the use of roundabouts where practical and feasible.</p> <p><b>I7-3</b> The comment states that GHG Reduction Measure T-2.1 should be broadened to allow for improvements beyond the existing paved roadway. The comment contends that by focusing on existing paved areas, the CAP will prevent the achievement of the "complete streets" goals for local or regional networks that are an effective way to induce routine walking and bicycling. The County acknowledges this comment but does not agree with the contention. As detailed in the description of the measure, implementing multi-modal enhancements as part of a "Complete Streets" approach serves to reduce Vehicle Miles Traveled (VMT) and encourage pedestrian and cyclist trips by creating a more comfortable and safer experience when traveling along public roads. As further provided in the description, this measure would not require any road widening or acquisition of right-of-way. It is anticipated that improvements related to "Complete Streets" would be able to be accomplished within the developed right-of-way. In addition, this comment does not address the adequacy of the Draft SEIR. However, the comment will be included as part of the Final EIR and made available to the decision makers prior to a final decision on the project.</p>
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already owned by the County or State, or is to be contributed or locally acquired.

Thank you for adding roundabouts to the CAP. And for allowing the enhancements to extend beyond the existing paved area.

Sincerely,

Jon Vick  
Member, Valley Center Community Planning Group  
Chair, VCCPG S. Village S/C  
Member, VCCPG Mobility S/C  
Director, VC Parks & Recreation District  
13678 McNally Road  
Valley Center, CA 92082  
Tel 760-751-0250

17-3  
cont.

# Modern Roundabouts

Reduce congestion and improve safety on main roads



## What is a “Modern Roundabout?”

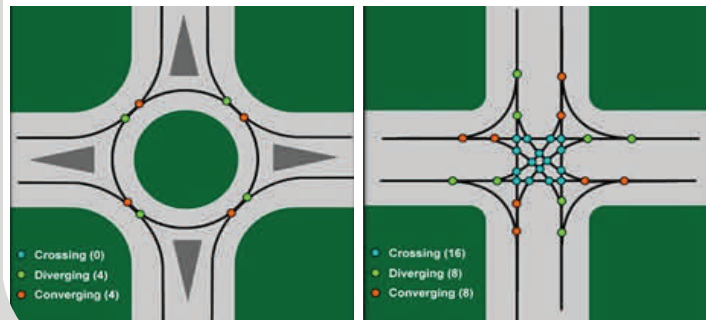
A modern roundabout is a circular intersection in which vehicles travel counterclockwise around a center island. Unlike large traffic circles or rotaries of the past, modern roundabouts are easy to navigate, environmentally friendly, attractive, and safe. Raised “splitter islands” induce arriving drivers to slow down prior to entering the intersection, and provide a refuge island for crossing pedestrians. Entering vehicles yield to traffic already in the roundabout.



Photo: SANDAG

## Why are roundabouts so much safer?

Roundabouts reduce both speed and the number of “conflict points,” from 32 to 8 (see figure).<sup>4</sup> Crashes in roundabouts are also less severe; converting intersections from signals to roundabouts reduces injury crashes by 80% and all crashes by 50%.<sup>4</sup> Severe injuries are rare; a study of 23 conversions found a 76% decrease in injury crashes and an 89% reduction in fatalities.<sup>5</sup> Bicyclists and pedestrians of different skills levels are safely accommodated in roundabouts, although visually impaired pedestrians may require special treatments.<sup>6</sup>



## How do roundabouts improve traffic flow?

Unlike signals, roundabouts keep traffic moving. Since the capacity of a street is greatly influenced by its intersections, reducing the number of stops increases road capacity, which improves traffic flow. As a result, fewer lanes are required, which has multiple safety, capacity, and cost benefits. On La Jolla Blvd. in San Diego (photos), five roundabouts allowed the City to shrink the street and widen the sidewalks, providing outdoor dining and meeting places, with less traffic noise.

## How do roundabouts improve air quality?

By reducing vehicle idling, roundabouts significantly decrease fuel consumption and emissions.

- On La Jolla Blvd. each roundabout is estimated to annually save 20,000 gallons of gasoline,<sup>1</sup> avoiding 9.9 lbs. of particulate pollution.<sup>2</sup>
- One roundabout can eliminate 189 metric tons of CO<sub>2</sub>e emissions annually, equivalent to 37 cars.<sup>1,3</sup>
- Installing 320 roundabouts in San Diego could reduce CO<sub>2</sub>e emissions by 60,480 metric tons annually — equal to the annual emissions of 10,900 cars.<sup>1,2</sup>

## How much do roundabouts cost?

As of 2014, the installation cost of a roundabout was around \$1 million, while traffic signals typically cost \$600,000. However, long-term costs for roundabouts are lower since little maintenance and no electricity are required. Costs of traffic crashes are also greatly reduced.

## Do drivers prefer roundabouts?

Until recently, roundabouts were unfamiliar to Americans. But drivers favor roundabouts once they become familiar with them. A 2002 study of roundabout conversions in three communities found that only 36% of drivers supported roundabouts before they were constructed, but 70% favored them one year after construction.<sup>8</sup>



1. Silva-Send, Nilmini (2009) *Reducing Greenhouse Gases from On-Road Transportation in San Diego County*. Energy Policy Initiatives Center, USD.  
2. U.S. EPA, *Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks* (2008).  
3. *Greenhouse Gas Emissions from a Typical Passenger Vehicle*, EPA Office of Transportation and Air Quality (2011)  
4. FHWA. *Driver Conflict Points: Roundabout vs Stop Sign*, safety.fhwa.dot.gov, accessed March 3, 2014)

5. Persand, B.N. et al. (2001) Safety effect of roundabout conversions in the United States. *Transportation Research Record*.  
6. FHWA (2010) *Roundabouts: An Informational Guide*.  
7. Lounsbury & Associates, *Myths and Facts about Roundabouts*, www.alaskaroundabouts.com/mythfact6.html, accessed July 15, 2014.  
8. Retting R.A. et al. (2002) Long-term trends in public opinion following construction of roundabouts. *Transportation Research Record*.  
Photos by Andy Hamilton, APCD, except as indicated.

# Traffic Circles

Reduce harmful emissions while improving neighborhoods



## What is a traffic circle?

Traffic circles (or “mini-roundabouts”) are circular intersection islands similar to modern roundabouts, usually installed in **2-lane streets**. Unlike with roundabouts, the approach islands (“splitter islands”) are painted rather than raised.<sup>1</sup>



Large vehicles such as buses and fire trucks can comfortably navigate traffic circles, improving safety and reducing noise on residential streets.

## How much do traffic circles improve safety?

The Institute of Transportation Engineers found traffic circles reduce intersection collisions 70%.<sup>5</sup> Similarly, the City of Seattle studied 130 sites and found a 73% decrease.<sup>6</sup> These results stem from the sideways routing (“horizontal deflection”) of the travel path, which eliminates dangerous crash types such as head-on, left turn, and right angle crashes,<sup>7</sup> and discourages speeding. In Portland, traffic circles virtually eliminated speeds over 35 mph, where before, 15% or more of traffic exceeded 35 mph.<sup>8</sup> Traffic circles are unexpected, so proper signage and markings are important.



Old and new traffic circles, in Del Mar and North Park, respectively.

## What are the main advantages of traffic circles?

Traffic circles are a relatively low-cost intervention to reduce traffic speeds and intersection crashes.<sup>2</sup> Although the geometry of the center island reduces speeds, it need not reduce the access of large trucks and emergency vehicles (above photo). To handle especially long trucks and busses, the center island typically includes a mountable “apron” less than four inches high that rear wheels can pass over.<sup>3</sup> However, the island must be large enough to prevent vehicles from making left turns in front of it. In addition to increasing safety, traffic circles provide a space for vegetation, public art, or a neighborhood identity sign.<sup>2</sup> However, it is important to consider how ongoing watering or maintenance costs will be funded.

**Cost:** On average \$10,000 — \$25,000, excluding costs of landscaping.<sup>4</sup>

## How do traffic circles reduce auto emissions?

One gallon of gasoline burned by an average San Diego vehicle produces 17.5 lb CO<sub>2</sub>, 45.4g CO, 11.3g NO<sub>x</sub>, and 4.5g VOC.<sup>9</sup> Like roundabouts, traffic circles used in place of stop signs or signals reduce these emissions two ways:

- (1) Reducing starts and stops: In one study, small roundabouts were found to reduce CO by 29%, NO<sub>x</sub> by 21% and greenhouse gases by 28%.<sup>10</sup> The town of Carmel, Indiana, has converted over half its intersections to roundabouts or traffic circles, with an estimated average savings of 24,000 gallons of fuel (and accompanying emissions) per intersection per year.<sup>11</sup>
- (2) Calming neighborhood traffic: Data show residents walk<sup>12</sup> or bike more — replacing some vehicle trips — when cars drive slower in their neighborhood.

1. Federal Highway Administration (2014) *Designing Sidewalks and Trails for Access*, 9.2.6 *Neighborhood Traffic Circles*. [http://fhwa.dot.gov/environment/bicycle\\_pedestrian/publications/sidewalk2/sidewalks209.cfm](http://fhwa.dot.gov/environment/bicycle_pedestrian/publications/sidewalk2/sidewalks209.cfm)  
2. Transafety, Inc. (1998) Traffic circle design criteria. *Road Management & Engineering Journal*. <http://usroads.com/journals/rmej/9801/rm980103.htm>  
3. Seattle Department of Transportation (n. d.) *Neighborhood Traffic Operations: Traffic Circle Program*. <http://www.seattle.gov/transportation/trafficcircles.htm>  
4. City of Oceanside, CA (2011) *City of Oceanside Traffic Calming Program*, p. 40.  
5. Institute of Transportation Engineers (n. d.) *Traffic Calming Measures - Neighborhood Traffic Circle*. <http://www.ite.org/traffic/circle.asp>  
6. Fehr & Peers (2010) *Traffic Circles*. <http://www.trafficcalming.org>  
7. Federal Highway Administration (2010) *Roundabouts: An Informational Guide*,

2nd Edition. NCHRP Report 672.  
8. Stein, H. et al. (1992) Portland's successful experience with traffic circles. *ITE 1992 Compendium of Technical Papers*, p. 39-44.  
9. Calculated from California Air Resources Board's EMFAC2011 model.  
10. Varhelyi, A. (2002) The effects of small roundabouts on emissions and fuel consumption: a case study. *Transportation Research Part D: Transport and Environment, U.S. Transportation Research Board*.  
11. Insurance Institute for Highway Safety (2005) *Status Report*, Col. 40, No. 9, November 19, 2005.  
12. America Walks (2011) *National Walking Survey*.  
Photos by Andy Hamilton, APCD.