



Valley Center Fire Protection District



Staff Report

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Meeting Date: 07/21/2022

Approved by: Pending Board Action
General Board Meeting

Agenda: Discussion Item

Location:

SUBJECT: Traffic Calming Roundabouts

RECOMMENDATION:

It is the recommendation of the Valley Center Fire Protection District Fire Chief that the Valley Center Fire Protection District supports traffic calming measures on Valley Center Road between Cole Grade Road and Woods Valley Road to prevent severe injury and fatal traffic collisions. The Fire Chief recommends that the Fire District Board of Directors should be intimately involved in the design and function of any calming measures that would affect firefighter safety, emergency response times and community evacuation. The Fire Chief, as the Fire Code Official will ultimately sign off on the traffic calming design if it meets the requirements of the Fire Chief.

PRIOR BOARD ACTION:

It is the recommendation of the Valley Center Fire Protection District Fire Chief that the Valley Center Fire Protection District supports an independent third-party study as requested and unanimously voted on by the Valley Center Planning Commission on July 10, 2017. It is the hope of the Fire Chief that this study will give our Fire Protection District Board of Directors and community the best information revealing all impacts related to design, engineering, construction, and fiscal impact of one or more traffic calming roundabouts on Valley Center Road between Cole Grade Road and Woods Valley Road. * Please note that this has not occurred. San Diego County contracted with the Michael Baker International and went right to work on identifying the corridor problems and designing solutions.

STATEMENT ON THE SUBJECT:

The County of San Diego 2020 Consolidated Fire Code, including all amendments to the 2019 California Fire Code and the Ordinances of the 13 unincorporated County Fire Protection Districts states: *Section 503.4.1 Traffic Calming Devices. Traffic calming devices (including but not limited to, speed bumps, speed humps, speed control dips, etc.) shall be prohibited unless approved by the fire code official.*

This is why it is so important for the Fire Chief, as the Fire Code Official to weigh carefully any traffic calming measures that could cause an unintended consequence that could jeopardize the health, safety and well-being of the community.

The Pros of Traffic Calming Roundabouts:

- 1. Reduction in vehicle related pollution:** Vehicles can keep moving through traffic reducing commute time and easing driver aggravation. Also, the starts and stops and idling at traditional traffic intersections cause vehicles emit more gas and diesel so roundabouts are more environmentally friendly.
- 2. Everyday driver, bicycle and pedestrian safety:** According to the Insurance Institute for Highway Safety, roundabouts have been shown to significantly decrease the number of serious injury traffic collisions because roundabouts make violent and deadly T-bone and head-on collisions less likely. The collisions that do occur tend to be less serious in nature as the speed is reduced to accommodate flow and there is no need to race to beat the red light. Roundabouts can be designed with a center island which can be a place of refuge for pedestrians. This provides a place of safety when crossing a busy intersection.
- 3. Emergency Evacuation.** Properly designed two lane roundabouts can move a significant volume of traffic without the need to staff an intersection during a general evacuation.
- 4. No significant measurable effect to emergency response times:** When properly designed, two lane roundabouts can be navigated by all sizes of emergency vehicles at slow rates of speed. They also allow vehicles within the roundabout to pull to the right and stop while emergency vehicles move around and continue to the emergency.

The Cons of Traffic Calming Roundabouts:

- 1. Driver uncertainty about yielding.** When approaching a roundabout, drivers are to yield to traffic already in them. However, some drivers believe you have to stop completely at roundabouts while others may not know who has to yield the right of way, dangerously entering the intersection into oncoming traffic. This is particularly true with drivers unfamiliar with roundabouts or who are impaired by drugs or alcohol while driving. As drivers become more familiar with roundabouts, the level of safety at intersections can improve.
- 2. Too many merge points,** especially in roundabouts with more than four streets and multi-lanes. The more traffic coming onto a roundabout, the greater the risk of collisions. There are also drivers that change lanes in multi-lane roundabouts which adds to the danger. This impacts pedestrians and bicyclists as well which results in a 60% increase in minor collisions in two lane roundabouts.
- 3. Driver speed.** While roundabouts force drivers to slow down, studies have shown that many drivers still enter and proceed through them at too high a velocity imperiling pedestrian, other drivers or themselves. This is especially imperiling during a downhill approach and during police pursuits.
- 4. Drivers may try to ‘cut’ the roundabout.** At smaller intersections, instead of going around them in a counterclockwise manner, some drivers turn left in front of the circles to save time. This endangers other vehicles, bicyclists, and pedestrians.
- 5. Space for bicyclists and pedestrians can be narrow,** if existent at all. Roundabouts need more space than traditional intersections and this lack of a defined shoulder can put others in peril.
- 6. Two lane roundabouts increase crashes by 60%:** While they are designed to reduce crashes and improved traffic flow, an Arizona State University study found two lane roundabouts have had the opposite effect. The study found single-lane roundabouts cut accidents by 18 percent and decrease injuries by 44 percent. But two-lane roundabouts yielded different results: While injuries also dropped, the crash rate increased by more than 60 percent, though the crashes were less severe this did have an impact on Emergency responders and an increase in police reports for traffic collisions.

OPERATIONAL IMPACT:

Valley Center is a unique community which should be considered by all concerned when replacing Opticom controlled, lighted controlled intersections with two lane traffic calming roundabouts. The first priority in emergency response is firefighter safety. We remember the tragedy on September 21, 2016, when Firefighter Ryan Osler was killed in a rollover accident involving a CAL OES Water Tender shuttling water to the Canyon

Fire. The Water Tender struck a curb while negotiating a roundabout on Highway 246 at Purisima Road near Lompoc.

Design, engineering and construction are imperative to firefighter safety as well as realistic driver training program through roundabouts to assure a safe understanding of the dynamic circumstances that are associated with negotiating roundabouts with and without traffic.

The second priority is response times to emergency incidents. Properly designed two lane traffic calming roundabouts move traffic slowly and continuously, and when the need arises, emergency apparatus can slowly navigate through as vehicles pull to the right and stop. It is imperative that the design allows for the responding apparatus to be “curbed” as most fire agencies must do to maneuver around vehicles who just stop in roundabouts when responding vehicles approach. It should be noted that there is no significant degradation in response times with a single, two lane traffic calming roundabout. However, studies have shown that increasing the number of roundabouts in alignment in the response route creates a slower travel time which becomes a factor in the overall response time. As a Fire Apparatus responding to an emergency is maneuvering slowly through multiple traffic calming roundabouts, by design they meet their intended objective; calm, slow and control traffic speeds. In an Opticom controlled, lighted controlled intersection, responding fire apparatus are given priority through the intersection by changing the right of way electronically or to have the option of using an open turn lane or maneuvering into an oncoming lane when safe.

Last but certainly not least is our ability to move large volumes of traffic during a general evacuation of our community. As stated earlier, Valley Center is a unique community with unique needs when planning for a disaster. Wildfires have caused our community to be evacuated in 2003 and 2007. There are four main arterials to conduct a general evacuation of Valley Center with Valley Center Road being the main thoroughfare of four ways out. Even two-lane traffic calming roundabouts are limited to the number of vehicles that can move through them by design. An Opticom controlled, lighted controlled intersection can be opened or closed manually to allow a logical and or greater number of vehicles through during a general evacuation while incoming emergency response vehicles of all sizes can move safely and effectively into the community to protect the lives and property of Valley Center from the ravages of wildfire.

FISCAL IMPACT ESTIMATES:

Increased Cost for Increased Emergency Responses: Staffing, Apparatus and Stations
Firefighter Driver Training: \$2000 Annually
Public Service-Safety Messages: \$2000 Annually
Fire Apparatus Wheel Alignment: \$800 Annually

CONCLUSION:

The Valley Center Fire Protection District Fire Chief should be prepared to make that important decision if and when it is required. At this point, more information will be required from Michael Baker International and the County Planning and Development Division to assist in that final decision process. The burden of proof will be placed on the factors of design, engineering and construction to assure the Fire Protection District that two lane traffic calming roundabouts are safer for the community and firefighters; provide little to no degradation in response times and have the ability to move an equal or greater amount of traffic in the same amount of time as an Opticom controlled, lighted controlled intersection. The Valley Center Planning Group has assured the Fire Chief that they will take all of these factors into consideration as they continue their vision of reduced, calmed traffic speeds and a more aesthetically pleasing look to the community than Opticom controlled, lighted controlled intersections.