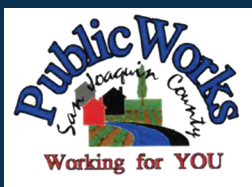


Duncan Road-Comstock Road Roundabout Project

SAN JOAQUIN COUNTY



2024 APWA Sacramento Project of the Year Award | July 15, 2024



PSOMAS

Project Summary

The project enhances safety for motorists by replacing the partial stop-controlled intersection with a roundabout, thereby providing better traffic operations and reducing the number of conflicting movements.

Project Features

- ▶ One-lane rural roundabout
- ▶ Center island with a wide truck apron and traversable asphalt concrete approach curbs for use by extra-large vehicles and equipment
- ▶ Splitter islands and approach curbs to slow down intersection-approaching vehicles
- ▶ The area was hardscape with cobblestones and colored stamped concrete to enhance functionality while minimizing maintenance needs and complementing the surrounding environment

Project Benefits

- ▶ Reduction in collisions and property damage
- ▶ Reduction in crash severity
- ▶ Reduction in traffic delay on a minor street (Duncan Road)
- ▶ Increased capacity for large vehicle turning movements
- ▶ Improved air quality

Project Overview

The Duncan Road-Comstock Road Roundabout Project comprises the construction of a single-lane rural roundabout in the community of Linden, east of Stockton. This project was 100% federally funded through the Highway Safety Improvement Program (HSIP), which is a competitive program with the goal of reducing traffic fatalities and serious injuries. This

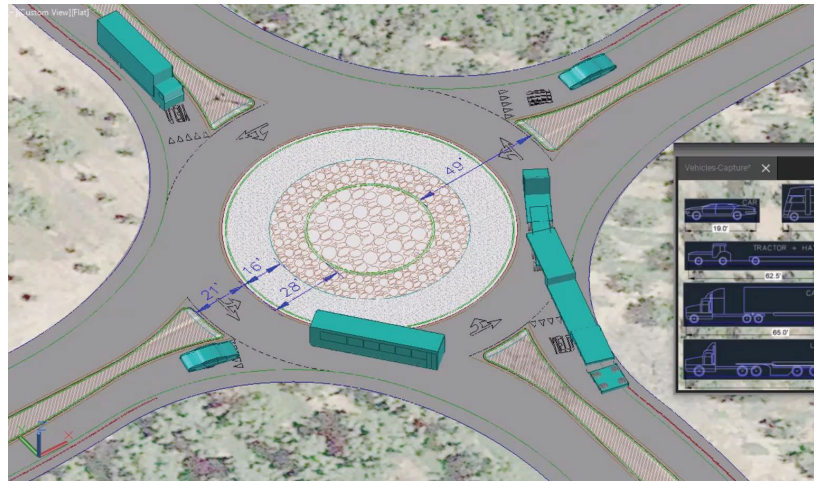
project is the first in San Joaquin County to construct a roundabout in a mainly rural agricultural area.

Prior to the project being programmed, several injury-related vehicle collisions were recorded at or near the Duncan Road and Comstock Road intersection, prompting action to reduce collision frequency and severity.

The project enhances safety for motorists by replacing the partial stop-controlled intersection with a roundabout, thereby providing



The County held a live demonstration where community members and agricultural industry representatives were invited to test a mock roundabout design with various sizes of trucks and agricultural equipment



better traffic operations and reducing the number of conflicting movements. A key concern along this corridor was speed and sight distance at the intersection. This project offers a form of traffic calming by reducing speeds and with the additional lighting improves visibility for motorists entering the intersection.

The work included preparing an environmental document to obtain CEQA/NEPA approval and coordinating with the County and local agricultural community (including the San Joaquin County Agricultural Commissioner and the San Joaquin County Farm Bureau).

On July 18, 2018, during the project's planning stage, the County held a live demonstration in Linden where community members and agricultural industry representatives were invited to test a mock roundabout design with various sizes of trucks and agricultural equipment. The

demonstration provided the County with valuable feedback that was used to adjust the design to accommodate the largest vehicle anticipated to use the intersection - a truck hauling a Lowboy trailer (107' in length).

During the design phase, a public workshop was held at Glenwood Elementary School to explain the project's purpose and need and the extent of the work and address the local community's concerns over the project.

Specific improvements include meandering approach roadways, raised asphalt concrete shoulders to provide added delineation, traversable truck apron and central cobble rock circle, signing and striping, and additional street lighting.

The project was completed in February 2024. The project was completed on time.

1. Construction

The design incorporated the reuse of excavated material within the designated fill embankment.

Rephrasing the construction operations to avoid the need for K-rails benefited the schedule and reducing project impacts by facilitating the passage of large vehicles through the project area. The County Construction Management team worked closely with the Contractor and the Design Engineer to keep the project on schedule and within budget.

The Project Engineer's estimate was \$2.05 million. The contract was awarded to George Reed Inc. for a bid amount of \$1.90 million. The project was 100% federally funded through the Highway Safety Improvement Program (HSIP), and it was completed on schedule and within budget.

During construction, the County worked with the Contractor to modify the pavement section to reduce traffic impacts and shorten the construction schedule.

2. Safety

The Duncan Road-Comstock Road Roundabout Project was completed with no lost-time injury reports. This outstanding safety effort was accomplished by adhering to the comprehensive safety program instituted by George Reed Inc., Project Management team, and the County's Construction Management team from the first day of field activities. George Reed Inc. conducted weekly tailgate safety meetings each Monday morning, in which standard safety practices were reviewed and discussed in an open forum environment. The County staff, George Reed personnel, and all subcontractors on site attended these weekly meetings.



At each weekly tailgate meeting, the large amounts of work going on in close proximity were discussed, as were haul routes, overhead high voltage utility lines that were being relocated during the project, individual responsibilities, and any outside force expected on-site during the day. Job site safety, including heat-related impacts during the summer months, was also included as a mandatory discussion topic at each weekly meeting.

The project itself enhances safety at the intersection by replacing the partial stop-controlled intersection with a roundabout, thereby improving traffic operations and reducing the number of conflicting movements. A key concern along this corridor was speed and sight distance at the intersection. This project provides a form of traffic calming by reducing speeds and with the additional lighting improves visibility for motorists entering the intersection. High visibility raised asphalt concrete shoulders increase awareness and provide added guidance for motorists approaching the roundabout.

3. Community Relations

Conducting an extensive public outreach effort was key to the project's success. This effort sought input and addressed the concerns of local residents, business owners along the corridor, school officials, motorists, and the agricultural community and associated representatives.

Advance signs, including changeable electronic message boards, provided drivers with essential traffic information and updates. Prior to the construction date, the County notified the Farm Bureau, local businesses, and residents in advance of the project through letters and social media announcements, and continued to update all stakeholders throughout the construction period.

Stage construction and traffic handling plans were prepared to allow one lane of traffic in each direction to remain open at all times.

A key concern along this corridor was speed and sight distance at the intersection. This project provides a form of traffic calming by reducing speeds and with the additional lighting improves visibility for motorists entering the intersection. High visibility raised asphalt concrete shoulders increase awareness and provide added guidance for motorists approaching the roundabout.

On July 18, 2018, during the project's planning stage, the County held a live demonstration in Linden where community members and agricultural industry representatives were invited to test a mock roundabout design with various sizes of trucks and agricultural equipment. The demonstration provided the County with valuable feedback that was used to adjust the design to accommodate the largest vehicle anticipated to use the intersection - a truck hauling a Lowboy trailer (107' in length).

During the design phase, a public workshop was held at Glenwood Elementary School to explain the project's purpose and need and the extent of the work and obtain input from the local community regarding their concerns or support for the project.

Special one-on-one meetings were held with specific property owners to address their concerns. Concerns over noise and lighting were evaluated and addressed by replacing planned rumble strips with highly visible and traversable raised concrete asphalt that encourages slower



traffic while accommodating extra-wide/large vehicles. The lighting features were also designed to be friendly to neighboring residents while effectively illuminating the intersection.

4. Environmental

Due to the nature of the improvements, environmental mitigation requirements were limited. Specific work hours and noise requirements were controlled due to the work's proximity to adjacent residences and schools. The project was designed to minimize impacts to adjacent fruit orchards and nut trees.

5. Unusual Accomplishments

This is the first project in the region to construct a rural roundabout in a predominantly agricultural environment.

The project design team was tasked with designing a roundabout to accommodate extremely large agricultural equipment, including a 108-foot vehicle configuration.

The project is consistent with County's goal of enhancing the safety and quality of life of all residents and facility users by promoting the use of the most appropriate forms of intersection control.

6. Additional Considerations

The Duncan Road-Comstock Road Roundabout Project comprises the construction of a single-lane rural roundabout in the community of Linden, east of Stockton. This project was 100% federally funded through the Highway Safety Improvement Program (HSIP), which is a competitive program with the goal of reducing traffic fatalities and serious injuries. This project is the first in San

Joaquin County to construct a roundabout in a mainly rural agricultural area.

The project enhances safety at the intersection by replacing the partial stop-controlled intersection with a roundabout, thereby improving traffic operations and reducing the number of conflicting movements.

The project has been well received by the local and agricultural communities. To date, the County has not received any complaints or reported any issues with the intersection, which is operating as expected without incident.

The project is consistent with County's goal of enhancing the safety and quality of life of all residents and facility users by promoting the use of the most appropriate forms of intersection control.



This project was 100% federally funded through the Highway Safety Improvement Program (HSIP), a competitive program that aims to reduce traffic fatalities and serious injuries. It is the first in San Joaquin County to construct a roundabout in a mainly rural agricultural area.



P S O M A S

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