

Choosing a Roundabout as a Multimodal Solution

Location

Santa Cruz, California

Strategies Employed

- ✓ Solicited a third-party, independent expert to verify for the community that a roundabout will improve safety and mobility for all users.
- ✓ Used a consistent message when communicating to the project stakeholders about why a roundabout is the right choice for the intersection.
- ✓ Targeted and educated pedestrian and bicycle advocacy groups to gain their support.



Figure 2: Pedestrians using the roundabout.



Figure 3: Bicyclist using the the roundabout.

Introduction

The City of Santa Cruz, California, is committed to creating and maintaining a walkable and bikeable community. Master plans adopted for pedestrians in 2003 and bicycles in 2008 back up that commitment with city policies to improve the quality of life for non-motorized road users.

Located on Monterey Bay, Santa Cruz is a vibrant community that has received national recognition and awards for being a “bicycle friendly community.” Residents of the city, students at the nearby University of California Santa Cruz, and visitors to the coastline all contribute to a diverse and active-lifestyle community. The city’s General Plan 2030 states:

“We will provide an accessible, comprehensive, and effective transportation system that integrates automobile use with sustainable and innovative transportation options—including enhanced public transit, bicycle, and pedestrian networks throughout the community.”

In addition, transportation safety and mobility around and through the community are important to the city, and the city’s staff is encouraged to consider innovative ideas and solutions to improve traffic flow and safety. As part of a revitalization of the connection between downtown and beach areas of Santa Cruz, and in keeping with active transportation goals, the city studied upgrading the intersection of Pacific Avenue, Center Street, and Depot Park from an all-way stop to a single-lane roundabout.

Background

Located less than ¼ mile from the historic Municipal Wharf, and adjacent to Depot Park, the intersection of Pacific Avenue at Center Street serves as a historic gateway between downtown Santa Cruz and the beach properties along the coast. The intersection experienced daily congestion due to traffic going to and from downtown and the beaches, especially on weekends. Being next to a park and close to the coast, pedestrians and bicyclists were also regular intersection users.

In 2005, the City of Santa Cruz undertook a feasibility study to evaluate the intersection operations and traffic control. Part of the study examined replacement of the existing all-way stop with either a roundabout or a traffic signal. The study documented the existing use patterns of all travel modes and counted the number of pedestrian crossings and bicycle turning movements at the intersection.

The feasibility study recommended a roundabout as the most balanced solution for pedestrians, bicyclists and motor vehicles. The roundabout requires fewer lanes on each approach than an equivalent traffic signal, which means shorter pedestrian crossing distances. Additionally, lower speeds associated with the roundabout foster a safer and more comfortable environment for all users.



Figure 1: Location of Santa Cruz, CA

Lessons Learned

- Strategically identify a location that seems like a good fit for a community's first roundabout then conduct a thorough, independent expert evaluation to inform early decisions.
- Connect the benefits of a proposed roundabout to important community values, including the goals set in long-range plans.
- Conduct extensive outreach by soliciting input and feedback and always following up on questions. These were simple, key steps with a great impact.
- Leverage strategic success to promote future roundabouts where they are feasible.



Figure 4: Bicyclist using the roundabout.

Approach

Following the recommendation of the feasibility study, the city programmed the project for construction in 2011. City personnel knew public outreach and communication were critical for successful completion since this would be the first modern roundabout in the community. Specifically, they planned a significant effort to reach and educate the pedestrian and bicycle advocacy groups. The city used consistent, positive messaging as the foundation for communicating to the general public and advocacy groups that a roundabout was the right choice. The city utilized the following talking points:

- Independent, expert analysis verified that a roundabout would operate more safely and efficiently than a traditional traffic signal.
- Pedestrians of all ages and abilities have a better experience since crosswalks are shorter and vehicle speeds are lower.
- Bicyclists can comfortably ride in the roadway since single lane roundabout geometry has fewer conflict points and lower speeds.
- The features of a roundabout create a “gateway” to the community thanks to improved aesthetics, including using the central island as an opportunity for a public art showcase.
- This intersection was well-suited for a successful first roundabout in the community due to the mix of modes, existing road layouts, and adjacent development.

Results

In addition to engaging the general public, city officials met with two prominent pedestrian and bicycle advocacy groups within the community to receive their input and answer their questions. Following this outreach, the city and the engineering consultant presented the findings to the Santa Cruz City Council. The advocacy groups spoke out in favor of the project and the city council unanimously approved the project for construction.

Conclusion

City staff sensed that the intersection was a good opportunity for a first roundabout in Santa Cruz and community support for the roundabout was achieved through a deliberate, thoughtful process. An accomplished expert was enlisted to equip city staff with the needed knowledge about roundabouts. Thus, the city was able to connect the proposed roundabout to community values of innovation, aesthetics, safety, and the environment. Efforts by the city to work with pedestrian and bicycling groups in the community resulted in additional support needed for the project to proceed. The City of Santa Cruz now uses the success of this roundabout as a model for other proposed locations.

More Information

City of Santa Cruz General Plan 2030:

<http://www.cityofsantacruz.com/index.aspx?page=348>

City of Santa Cruz Pedestrian Master Plan:

<http://www.cityofsantacruz.com/Modules/ShowDocument.aspx?documentid=25777>

City of Santa Cruz Bicycle Transportation Plan 2008:

<http://www.cityofsantacruz.com/Modules/ShowDocument.aspx?documentid=2496>

Feasibility Report (Beach Area Roundabout and Traffic Signal Project):

<http://www.cityofsantacruz.com/Modules/ShowDocument.aspx?documentid=2494>

Learn More

Christophe Schneider

Assistant Director of Public Works / City Engineer
City of Santa Cruz

831.420.5422

cschneider@cityofsantacruz.com

Jeffrey Shaw

Intersections Program Manager
FHWA Office of Safety

202.738.7793

jeffrey.shaw@dot.gov