

# SAVE CALIFORNIA STREETS

## BARDIN ROAD SAFE ROUTES TO SCHOOL IMPROVEMENTS, SALINAS, CA

The **Bardin Road Safe Routes to School Improvements Project** is a road diet and safety enhancement project with a focus on improving vehicular, pedestrian, and bicycle access to Bardin Elementary School. In particular, Kimley-Horn utilized two contiguous roundabouts to maintain vehicular flow while providing safe access to the school's drop-off and pick-up zone.

The original intersection of Bardin Road and Alisal Street consisted of three separate intersections closely spaced with multiple decision points. Vehicles from the north and west, where the majority of the students live, did not have an easy way to access the school's drop-off and pick-up location. As a result, parents were either making illegal U-turns or dropping off their children on the opposite side of the school, forcing students to cross Bardin Road at various locations without crosswalks. School-bound traffic was also using alternative routes along Monte Bella Boulevard and Sconberg Parkway to get to the drop-off area, causing congestion in the neighborhood's streets.

Alisal Community Elementary School, Alisal High School, Monte Bella Elementary School, Bardin Elementary School, and Hartnell College East Campus are all located within the project area. In addition, the Cesar Chavez Library is located at the corner of Bardin Road and Williams Road. The library is heavily used by children after school ends. Adjacent to the library is a retail shopping center with a grocery store, restaurants, and other shops.

Students attending Monte Bella Elementary and Bardin Elementary will be particularly affected by the improvements. Assuming an acceptable walking radius of 0.5 mile, it is estimated that 80% and 40% of enrolled students respectively live within a reasonable walking distance from the schools. Assuming an acceptable biking radius of three miles, all students within each school's enrollment boundary live within a reasonable biking distance from school. Bicycle activity to Hartnell College will likely increase due to improved facilities, but not to the same extent as the local schools due to a dispersed enrollment area. With no bicycle facilities currently on Bardin Road, the project is expected to significantly increase bicycle and pedestrian mode share by making a package of improvements that will slow down travel speeds, improving the comfort and safety of those traveling along or across the roadway. It also adds bicycle facilities and enhanced pedestrian crossings along Bardin Road and Alisal Street. The portion of Alisal Street between Bardin Road and Hartnell College access will add buffered bicycle lanes, a new sidewalk, and curb/gutter improvements. It is expected that these improvements will transform the area into an active transportation-friendly environment with a unified bicycle and pedestrian network. Based on the current roadway conditions and proposed improvements, it is expected that pedestrian and bicycle activity will double in the area following the project.

The proposed dual roundabouts consolidate the decision points and provide an innovative way for vehicles from all directions to gain access to the school drop-off and pick-up area. Vehicles traveling from the north or west may now proceed through the roundabouts and exit from the northbound leg into the separated school drop-off zone. This area provides two lanes with adjacent sidewalks for safe and effective student drop-off, and includes an enhanced crosswalk for students to cross from the eastern lane drop-off zone. The layout will effectively double the size of the drop-off zone and increase its safety exponentially. Not only does the student drop-off area provide easy vehicle access and pedestrian safety, but it is also fully separated from through traffic, thereby reducing overall congestion along the corridor.

This innovative layout is important for many reasons:

### School Safety

The roundabouts provide a unique opportunity that combined enhanced safety and vehicle operations with improved school drop-off and pick-up operations. This project was a partnership between the City and the Alisal School District to provide a unique opportunity to repurpose City streets for the benefit of the entire community. Reconfiguring the intersections with a roundabout provided the opportunity to improve school drop-off and pick-up operations by simplifying access and creating an orderly and formalized drop off area.

On multiple occasions over the years, the City of Salinas Traffic Section has visited Bardin Elementary to discuss safe access patterns and behaviors with parents. Due to the school's attendance boundary and the roadway and drop-off lane geometrics, many parents made illegal U-turns to access the school. The City developed this project concept to offer a design solution that will eliminate illegal U-turns and provide enhanced bicycle and pedestrian facilities to promote active transportation to and from school.

The City contacted the following organizations in preparation of this project:

- Alisal School District
- Bardin Elementary
- Hartnell College
- Building Healthy Communities (BHC)
- Transportation Agency of Monterey County (TAMC)
- Association of Monterey Bay Area Governments (AMBAG)

Both the City and the design team met with Bardin Elementary during the PS&E phase. The school and district transportation representatives had input on the design of the pick-up and drop-off zones, the location of the crosswalks, egress/ingress for the School Bus Parking Lot adjacent to the school, and how to maintain access during construction.

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### Access

We evaluated alternative intersection configurations for the Bardin Road and Alisal Street location. The alternative configurations that did not have dual roundabouts instead reconfigured the existing layout into a one-way system. These alternatives did not provide benefits to access the school drop-off and pick-up area, reduce conflict points, or calm traffic near the school and along Alisal Street. The dual roundabout alternative was considered the most attractive to supporting non-motorized modes of transportation while maintaining vehicle connectivity to the school.

The project site abuts farmland and is the southerly transition from miles of farm fields to the urban city street network. As a result, there are several unique agricultural trucks and vehicles, such as WB-67D flat trailers and buses towing portable restroom facilities that navigate the project intersections between the field and the packing plants in Salinas. In addition, loads are typically secured poorly because of the short distance from the field to the plants and if disturbed by mountable aprons, may result in loss of product. We designed the roundabouts to accommodate these unique design vehicle requirements without sacrificing target entry speeds and pedestrian safety. We included other accommodations to provide access for Surface Transportation Assistance Act (STAA) vehicles using truck aprons for the long trailer. To accommodate the STAA vehicles while keeping speeds low, we included mountable blisters on the splitter island on the east leg and along the median island at East Alisal Street. The blisters align with the striping to direct passenger vehicles but provide additional, mountable lane width to allow design vehicles access.

### Facility Connectivity

Another key factor in the Bardin Road improvement project was to include a road diet along Bardin Road while maintaining the existing cross-sections along the western and southern legs of East Alisal Road. Using single lane roundabouts allows for the road diet along Bardin Road, including one lane in each direction and buffered bike lanes.

By creating a road diet, the project will greatly reduce the speed of vehicle traffic. The project narrows Bardin Road from two lanes in each direction to one lane in each direction with a center turn lane and adds buffered bicycle lanes. This change in roadway cross-section should reduce vehicle travel speeds. Enhanced crosswalks at the intersections of Bardin Road at Williams Road, Countryside Drive, and Alisal Street and the two roundabouts along Bardin Road act as traffic calming devices to further reduce travel speeds.

### Safety

Before construction, Bardin Road from Williams Road to Alisal Street was two lanes in each direction and approximately 70 feet wide. The corridor experienced high vehicular speeds and had long pedestrian crossings as well as no dedicated bicycle facilities. With no dedicated bicycle facilities and a limited number of crosswalks, cyclists and pedestrians used the vehicular facilities to travel and cross the roadway. The roundabouts proposed at East Alisal Street/Bardin Road/Sconeberg Parkway will slow traffic and significantly shorten bicycle and pedestrian crossings, effectively removing a barrier to non-motorized travel and increasing safety significantly. The improvements also include buffered bicycle lanes, non-contiguous sidewalks, crosswalk enhancements, and ADA ramp enhancements. The City will upgrade the existing crosswalk at Bardin Road and the new student drop-off area with a high visibility pedestrian crossing, curb bulb-outs, and a pedestrian refuge median.

The majority of the collisions along Bardin Road took place at intersections. The project utilizes many countermeasures including pedestrian ramps, curb bulb-outs, buffered bicycle lanes, and high visibility pedestrian school crossings to improve pedestrian and bicycle safety. The project also proposes many traffic calming measures (road diet, roundabout, and curb extensions) to slow vehicular speeds and provide more dedicated space for more active modes of transportation. Another key component in increasing pedestrian and cyclist safety is to improve sight distance and visibility. The roundabouts on Bardin Road greatly reduce the number of potential conflict points and improve pedestrian crossing visibility.

### Stormwater Pollution Prevention and Community Beautification

The City will use median islands as biofiltration basins and for landscaping features. Several of the splitter islands, the median island at East Alisal Street, and the landscape buffer along Alisal Street and Bardin Road will include biofiltration basins to treat the street water runoff before entering the storm drain system. The City will place local, drought-tolerant plants and trees in the basins, splitter islands, and central medians.

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Bardin Road Safe Route to School Enhancement (Improvements)  
Future and Built Improvements



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