Big Sur and Garrapata Creek Bridge Rail Replacement Project

Frequently Asked Questions

Why are there only two rail types available to choose from?

The design of the replacement bridge rails would be consistent with the character of the existing bridges and complement the aesthetics of the rural coastal setting. The replacement bridge rails would have slightly different dimensions than the existing rails. The new rails would be designed to match the existing visual character of the bridges and the corridor, but they would not be an exact in-kind replacement. Caltrans has developed a context sensitive MASH-compliant rail for the Garrapata bridge rail replacement and the historic Big Sur bridges.

An open-style bridge rail that maximizes openness to the greatest extent possible would be used and would include the smallest end blocks possible that meet safety needs. The intent is to balance respect for historic design themes with safety and the best of contemporary structural expression.

The Texas Department of Transportation has developed a MASH-compliant rail that Caltrans is evaluating for use within the state of California. The rail has successfully passed crash testing criteria and looks similar to the original Big Sur historic bridge rails.

Why can't the rail be replaced in kind or a Design Exception be granted?

The current MASH standards require more structural steel to withstand vehicular impacts, and require fewer snagging hazards for errant vehicles than the original rail that was designed in the 1930's. Also, current bicyclist standards require each clear opening between balusters to be narrower than those on the original rail. Further, the Guidelines for the Corridor Aesthetics element of the Coast Highway Management Plan state: "new... should be authentic in design, rather than emulate something they are not, i.e., historic bridges. At the same time, structural designers should recognize historic bridges for the quality of aesthetic and engineering excellence they represent and strive to match or exceed this quality in contemporary terms."

A Design Exception cannot be granted for this project as new safety hardware/equipment for projects cannot be approved regardless of context of the historic or aesthetic environment.

What other rail types were considered?

Caltrans will choose a new MASH-compliant railing that is both context sensitive and compatible with the historic and visual resources of the Big Sur bridges and the Carmel-San Simeon Highway Historic District. Bridge railings and barriers in the Coastal Zone present a distinct set of challenges, largely because of visual protections established by the Coastal Act as well as federal highway structural design standards. These challenges led to the development of Caltrans' and the California Coastal Commission's Bridge Rails and Barriers: A Reference Guide for Transportation Projects in the Coastal Zone. This guide was prepared as a tool to help stakeholders and participants in bridge and railing design better understand the options available

for potentially successful application in future projects within the Coastal Zone. While bridge rails that meet MASH compliance exist, Caltrans opted to develop one specific to the Big Sur historic bridge corridor that maximizes openness and the historic appeal.

What future opportunities will there be for the public to provide input on the two rail types?

In addition to the public outreach and subsequent comments received during the draft environmental document circulation and comment period, Caltrans is committing to present the two bridge rail options to the Big Sur community in the beginning of 2022. This will allow time for full testing and analysis of the bridge rails prior to their debut. From now until that time, Caltrans will investigate the best forum for the outreach event. This might be at an existing Big Sur Byway Organization meeting, a Big Sur Multi-Agency Advisory Council meeting, a Land Use Advisory meeting, or a one-time special event separate from these meetings. Furthermore, Caltrans will be soliciting input from the public on which rail type is preferred as well as input on bridge aesthetics related to rail color, rail opening dimensions and design. The public could also provide input during the coastal development permit process.

Why are the rails being replaced?

The existing railing on all six bridges no longer meet current state and federal safety standards. Furthermore, the existing bridge rails are displaying significant deterioration. The Manual for Assessing Safety Hardware (MASH), implemented as an agreement between the Federal Highway Administration and the American Association of State Highway Transportation Officials in 2009 (updated in 2016), sets the standards for highway safety equipment. MASH was subsequently implemented by the California Department of Transportation (Caltrans).

Can the speed limit be reduced?

No. Caltrans looked at the option of lowering the speed limit through the project area to 45 miles per hour to accommodate an in-kind bridge rail replacement. A speed zone survey of Highway 1 in the Garrapata Bridge area was completed in December 2019. The results of the survey showed 85 percent of vehicles were travelling at speeds above the posted 55 miles per hour speed limit. The analysis of the survey determined reducing the speed limit could not be justified.

For more information, please refer to Section 1.7.2 of the Big Sur Bridge Rail Replacement/Garrapata Creek Bridge Rail Replacement final environmental document.