

H-1 Freeway Widening

Honolulu, HI | Reactive Tension System



ROAD ZIPPER™

H-1 Freeway Widening

CASE STUDY
FOR CONSTRUCTION

Narrow Barrier Profile, Outstanding Performance

Reactive Tension System Quickchange® Moveable Barrier (RTS-QMB®) are showing up all over the island of Oahu. And for good reason: they're working.

Pearl City, Hawaii, commuters are now saving valuable time during the afternoon rush hours, thanks to the widening of a mile-and-a-half segment of westbound H-1 Freeway (Waimalu Viaduct). The \$60 million, two-year widening project was completed in June 2006. According to HDOT, approximately 226,000 vehicles use the highway daily; this number is projected to increase to 284,000 by 2022. When the highway was originally constructed in 1969, the state only anticipated a traffic volume of about 89,000 vehicles a day by 1988. Since then, HDOT

says the volume has increased 320 percent.

General contractor Kiewit Pacific Co. performed the widening, along with excavation and soil stabilization. In June 2004, Barrier Systems Inc. leased over a mile of reinforced concrete Reactive Tension barrier to Kiewit Construction for the project. The barrier's low deflection (27 inches at NCHRP 350 TL-3) made it ideal for the narrow lanes.

With more than 1,000 work zone-related fatalities reported in the United States annually, new positive barrier separation strategies provide the needed protection for both workers and motorists. The RTS-QMB system is designed to accelerate construction, improve traffic flow and safeguard work crews

and motorists with positive barrier separation between the work area and traffic.

In the case of the Waimalu Viaduct project, the RTS-QMB was moved twice a day through the Barrier Transfer Machine to provide positive barrier protection for the work crews and equipment on the shoulder and reduce congestion during peak period hours. This lane flexibility increased safety, significantly reduced the duration of the contract and improved the quality of work during the different stages of the job. Kiewit Construction increased their efficiency by utilizing the expanded work zone during non-peak traffic. The extra lane was used for a haul road and to provide space for larger, more efficient equipment.



 **LINDSAY**™

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