Research Project Summary

New Near-Fault Adjustment Factors for Caltrans Seismic Design Criteria (SDC)

PEER-Bridge 2024

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Start-End Dates:
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Abstract
Recordings from past earthquakes reveal that ground shaking at locations near a rupturing fault can be substantially more damaging than from further distances. Since 1992 Caltrans has increased the design response spectrum at locations less than 15 km from a fault to account for the potential severity of shaking. These near-fault increases to the design spectrum, achieved using period dependent adjustment factors, have only received minor modification since their inception. This project aimed to update the near-fault adjustment factors to incorporate recent findings from a statewide seismic hazard model that includes near-fault effects and from a recent study on the inelastic structural response resulting from near-fault input motion. Updated near-fault adjustment factors will be used in bridge design.

Deliverables
PEER report and a journal paper.

Research Impact
Seismic design criteria for Caltrans will be updated.

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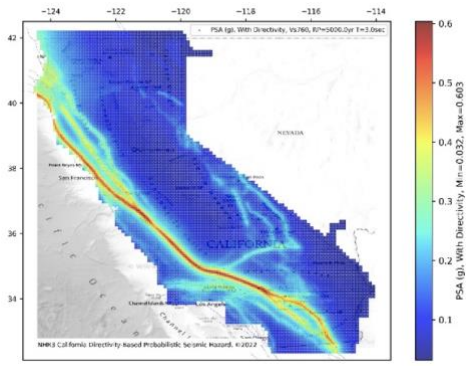
Project Image



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