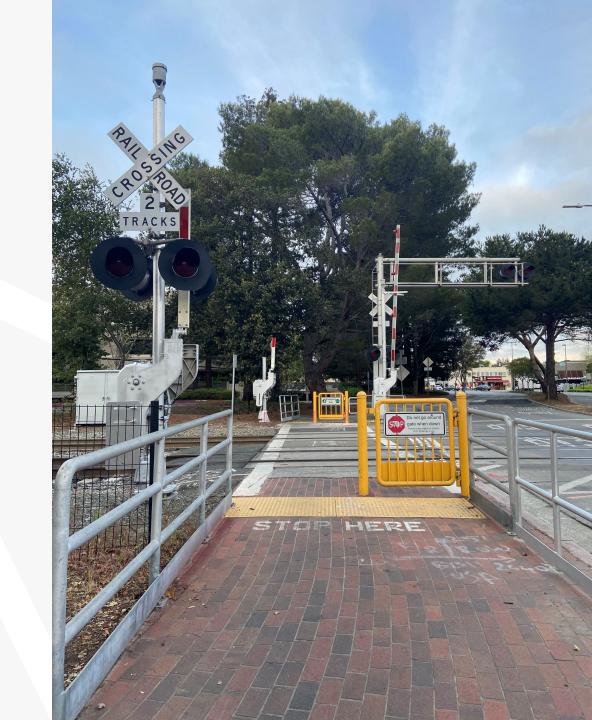


City of Menlo Park / City of Palo Alto Quiet Zone Study

Kimley»Horn



1. Quiet Zone Basics

Overview

- 2. Menlo Park / Palo Alto Quiet Zone Study Overview
- 3. Quiet Zone Process
- 4. Walkthrough of Work To-Date

Why do trains sound their horns?

- Railroads are regulated by the Federal Railroad Administration (FRA)
- Train horns are required by the FRA
- Decibel level requirements for horns
- Advance notice (20 seconds)



What is a Quiet Zone?

- A Quiet Zone exists where a train horn does <u>not</u> need to sound
- The crossings need to be upgraded to be safer without horns than they are in current state with horns.
- Achieved via:
 - Supplemental Safety Measures (SSM) at every crossing; or
 - Proposed design's Quiet Zone Risk Index (QZRI) qualifying for Quiet Zone



Most crossings, as they exist today, would not meet the safety thresholds to implement a Quiet Zone.

Quiet Zone Study The Process

PHASE I Study (CURRENT)

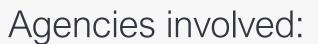
- Agency Coordination
- Conceptual Design / Safety Analysis
- Public Outreach
- Final Report

PHASE II Implementation (FUTURE)

- Permitting (CPUC, Caltrain)
- Final Design
- Funding
- Construction
- FRA Certification

Agency Coordination

Stakeholder organizations met at each crossing and discussed proposed improvements



- City of Menlo Park
- City of Palo Alto
- Kimley-Horn
- Caltrain

- CPUC
- FRA
- UPRR
- Caltrans













Expect More. Experience Better.





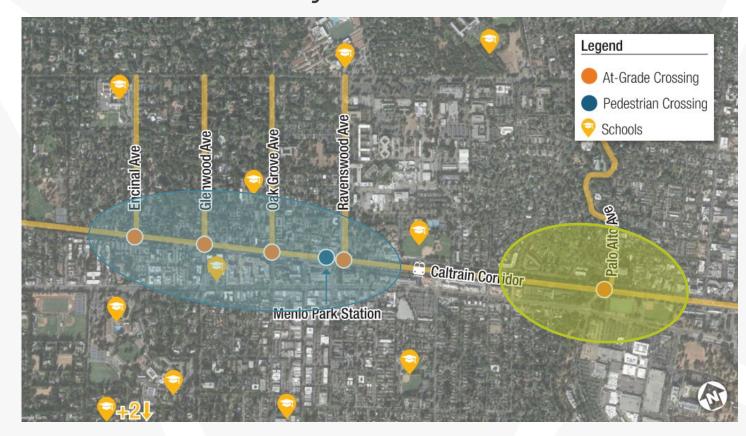
The Menlo Park / Palo Alto Quiet Zone Study Area

Palo Alto Study Area

Palo Alto Ave

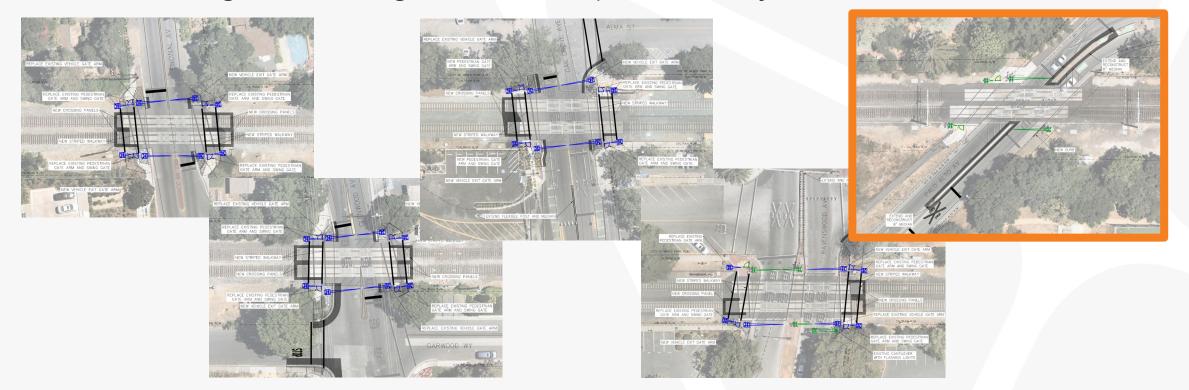
Additional Crossings Studied

- Encinal Ave
- Glenwood Ave
- Oak Grove Ave
- Ravenswood Ave



Conceptual Design

• Each crossing was redesigned to meet specific safety criteria



- Four-quadrant gates
- Raised medians
- Sidewalk realignment
- Refreshed roadway striping and updated signage

Four-quadrant gates

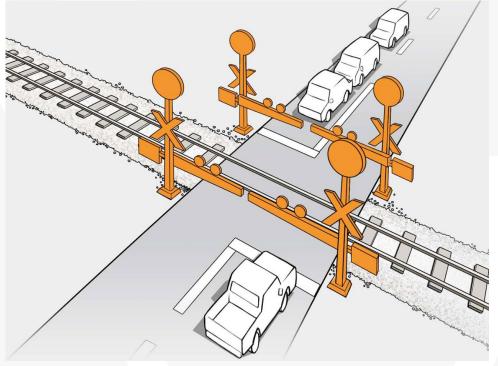
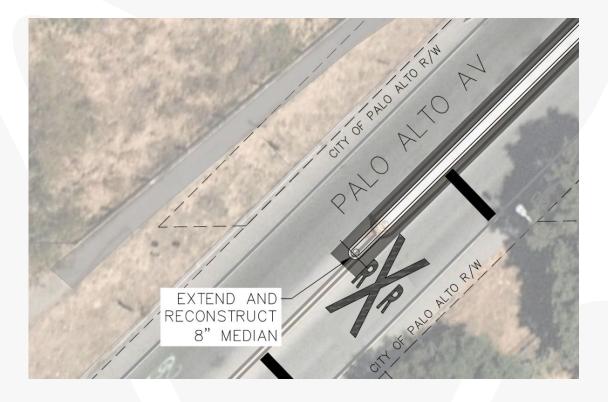
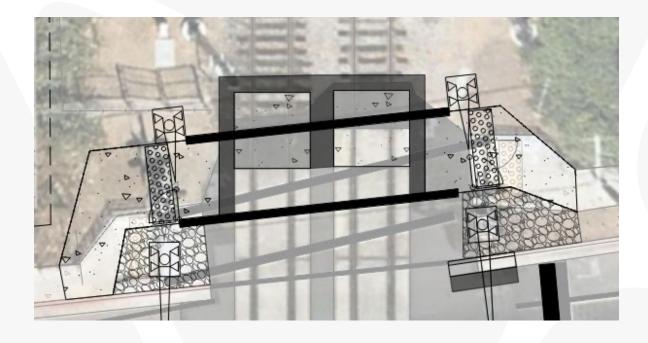


Image: https://hsr.ca.gov/about/safety/quad-gates/

Raised medians



Sidewalk realignment



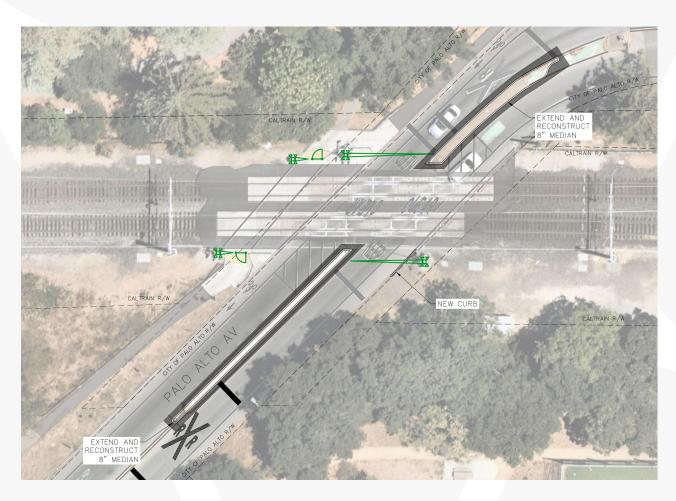
Refreshed roadway striping and updated signage





Conceptual Design – Palo Alto Ave / Alma St

- Elongated medians near the railroad tracks to meet FRA standards
- Refreshed striping and signage to meet federal standards



Public Outreach

 Feedback from this meeting will help inform future decisions



Final Report

- Brings together all steps taken in this process
- Provides recommendations for the cities

Implementation

- Permitting (CPUC, Caltrain)
- Final Design
- Funding
- Construction

Kimley» Horn

Expect More. Experience Better.

Questions?

KEY PERSONNEL

CITY OF PALO ALTO

RIPON BHATIA PHILIP KAMHI

KIMLEY-HORN

PETER MEYERHOFER, P.E. (PROJECT MANAGER)
BRENT OGDEN, P.E., P.T.O.E. (GRADE CROSSING EXPERT)
TAYLOR BROWN, EIT
MEAGAN CHAN, EIT