

RAIL FACT SHEETS

Meadow-Charleston Viaduct

About the Viaduct

For the viaduct alternative, the railroad tracks will be elevated on a structure over Meadow Drive and Charleston Road. The new electrified railroad tracks will be built between the existing railroad tracks and Alma Street (east side) and will begin rising north of Loma Verde Avenue, remain elevated over Meadow Drive and Charleston Road, and return to the existing elevation south of Ferne Avenue.

The roadways at Meadow Drive and Charleston Road will remain at their existing grade and have a similar configuration to what exists today, with the addition of Class II buffered bike lanes on Charleston Road. This addition will require expanding the width of the road to maintain bike lanes through the underpass of the railroad and to accommodate the new column supporting the railroad structure.

By the numbers

- Railroad track is designed for 110 mph.
- Meadow Drive and Charleston Road are designed for 25 mph.
- Maximum grade on railroad is 1.4%.
- Maximum grade on roadway is 5%.
- Travel lane widths are 10-12 feet.
- Bike lane widths are 5-6 feet.
- Construction period is approximately 2 years.

Engineering Challenges

- A non-standard grade of 1.4% will be required on the tracks. Caltrain’s preferred grade maximum is 1%.

Cost Breakdown

Roadway & Railroad Items	\$72M to \$90M
Structure Items	\$155M to \$194M
Right-of-way & Utilities	\$18M to \$22M
Support Costs	\$80M to \$100M
Escalation to 2025 dollars	\$75M to \$94M
TOTAL PROJECT COSTS	\$400M to \$500M

Preliminary and subject to change. Maintenance costs and relocation of fiber optic lines not included.

For more Rail Fact Sheets visit:
<https://connectingpaloalto.com/fact-sheets/>



Proposed Ground Level View - Looking East
Charleston Road Intersection



Proposed Viaduct Aerial View - Looking South
Meadow Drive Intersection



Proposed Backyard View - Looking East
Typical Property West of Tracks

Neighborhood Considerations

- During construction, Meadow Drive and Charleston Road will be closed intermittently at night and on weekends.
- During construction, Alma Street will have narrow lanes for the portions north of Meadow Drive and south of Charleston Road.
- Vertical clearance of the railroad over Meadow Drive and Charleston Road will be 15.5 feet.
- The railroad tracks will be approximately 20 feet above the existing street between Meadow Drive and Charleston Road.
- With grade separations at Meadow Drive and Charleston Road the traffic at nearby intersections is expected to improve.



Caulfield to Dandenong Viaduct - Australia

Evaluation with City Council-Adopted Criteria

Facilitate movement across the corridor for all modes of transportation
Meadow Drive and Charleston Road will be grade separated from the railroad for all modes and will remain open. Viaduct provides opportunities for additional crossings for all modes.

Reduce delay and congestion for vehicular traffic at rail crossings
With construction of the grade separation, the railroad crossing gates and warning lights at Meadow Drive and Charleston Road will be removed. Thus, the traffic will not be interrupted by the railroad crossing gates.

Provide clear, safe routes for pedestrians and cyclists crossing the rail corridor, separate from vehicles
Pedestrians/cyclists will be separated from train traffic only. Bike lanes will be added to Meadow Drive and Charleston Road intersections. Additional pedestrian/cyclist separations routes can be explore on the next phase of design.

Support continued rail operations and Caltrain service improvements
New railroad tracks can be built without a temporary track, and a crossover track located north of the San Antonio Caltrain Station will be relocated.

Finance with feasible funding sources (Order of magnitude cost)
The viaduct would require substantial local funding resources more than the hybrid alternative, but less than the trench and tunnel alternatives.

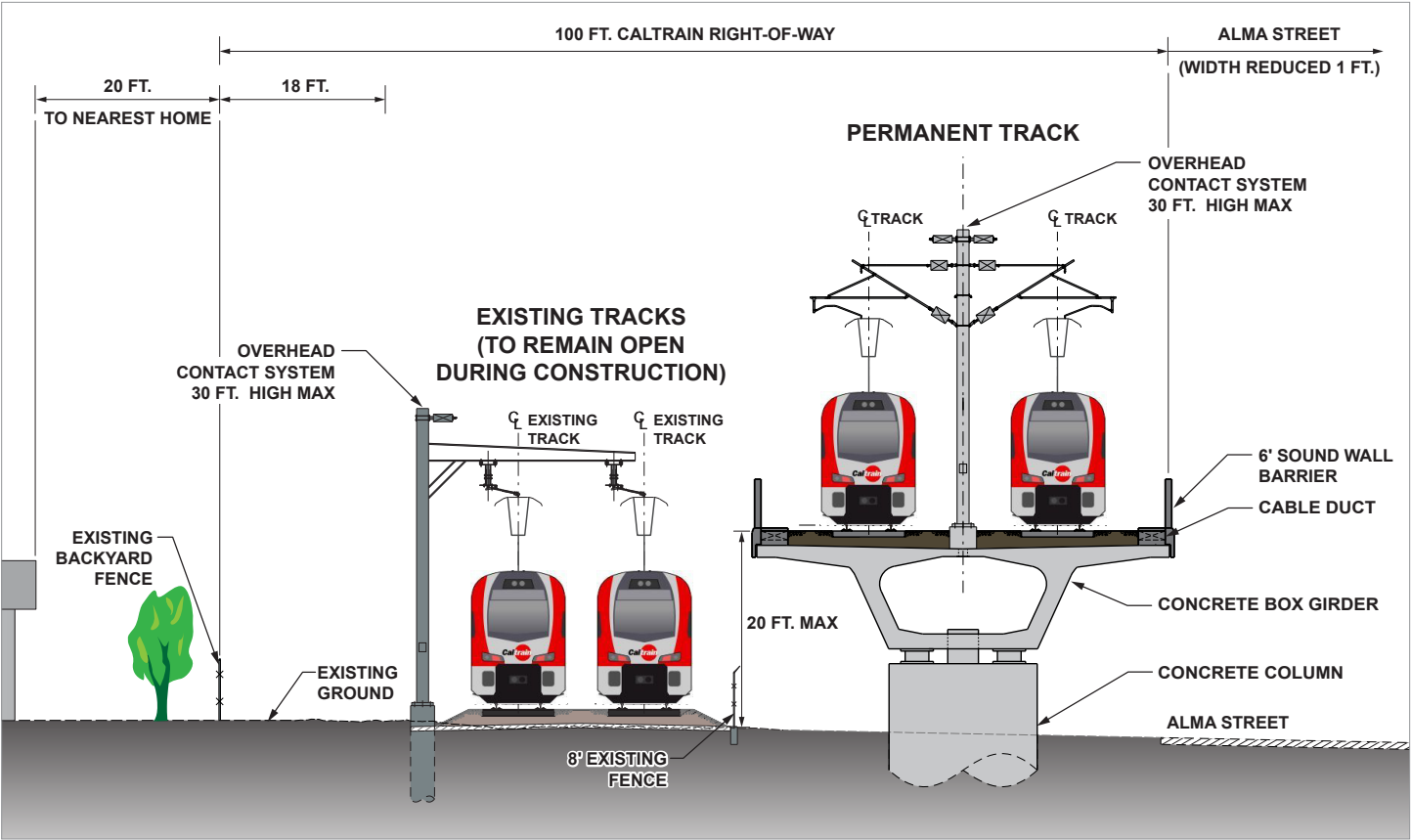
Reduce rail noise and vibration
Train horn noise and warning bells will be eliminated with the replacement of the at-grade crossings with grade separations. Utilizing EMU trains instead of diesel engines will also reduce noise. Six-foot high parapet sound barriers will help reduce propulsion and wheel/rail noise. There would be significant reduction to vibration levels at nearby receptors.

Minimize visual changes along the corridor
Railroad tracks will be approximately 20 feet above grade. Landscaping with trees will be incorporated for screening where feasible.

Maintain access to neighborhoods, parks, and schools along the corridor, while reducing regional traffic on neighborhood streets
No diversion of regional traffic with construction of grade separations.

Minimize right-of-way acquisition (Private property only)
No acquisition of private properties is required.

Minimize disruption and duration of construction
The viaduct will have minimal road closures (nights/weekends only). Construction would last for approximately 2 years.



Example Section - Viaduct - Looking North (Typical Between Meadow Drive & Charleston Road)

Concept Plan and Profile

